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# FIRE ENGINEERING

*The Journal of the Fire Protection Profession Since 1877*

Vol. 89, No. 10 OCTOBER, 1936 Member A.B.C.—A.B.P.

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**2200 EAST JEFFERSON AVENUE ‹ › DETROIT, MICHIGAN**
**FIRE TRUCKS FIRE HOSE AND EXTINGUISHERS**

*A Consolidation of* FIRE AND WATER ENGINEERING *and* THE FIRE ENGINEER

# FIRE ENGINEERING

*The Journal of the Fire Protection Profession Since 1877*

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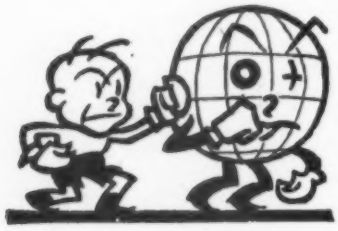

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"I read twenty-one Fire Journals every month, coming from all parts of the world, but I can tell you that FIRE ENGINEERING is easily the best."

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● We have always had the same high regard for L'Alarme, so here's sharing first honors!

The Publishers

## IN THIS ISSUE

VOL. 89 October, 1936 No. 10

Page

**With the Editor** ..... 457
What Is Good Hose Worth?—Trends in Pumps
By Fred Shepperd

**Handball Keeps Firemen Fit (Illustrated)** ..... 458
By H. T. Friermood

**What Does Fire Protection Cost?** ..... 460
Fire Department Expenses of 94 Cities of 100,000 and Over Population, According to U. S. Census Bureau

**The Crime of Arson (Concluded—Illustrated)** ..... 462
By George O. Mansfield

**Gases, Chemicals and Hazardous Materials (Part XII—Illustrated)** .. 465

**Promotional Study Course (Continued)** ..... 466

**The Round Table Department** ..... 467
Continuation of Discussion on Sprinkler System Procedure by Departments

**Questions and Answers** ..... 470
Replies to Questions by Readers

**The Watch Desk** ..... 472
By Roi B. Woolley

**What's Burning** ..... 475

**Manufacturers' Announcements (Illustrated)** ..... 488

**Convention Dates** ..... 488

**False Alarm (Illustrated)** ..... 495
Humorous Side of the Fire-Fighting Profession

MEMBER
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Associated Business Papers

*Published the tenth of each month by*
CASE - SHEPPERD - MANN PUBLISHING CORPORATION
*Also publishers of "Water Works Engineering" and "Municipal Sanitation"*
General Offices—24 West 40th Street, New York

SUBSCRIPTION PRICE
U. S. and Canada, $2 a year; Foreign, $3; Single Copies, 25c.

KARL M. MANN, President
I. HERBERT CASE, Vice-Pres. and General Manager
JESSE H. NEAL, Vice-President
W. J. GIBSON, Advertising Manager
H. S. ESSEX, Production Manager

CHICAGO: 6 N. Michigan Ave.—W. S. CLEVENGER, L. M. ROCHE; SAN FRANCISCO: 444 Market St.—CHARLES H. WOOLLEY

*Entered as second class matter April 15, 1929, at the Post Office at New York, N. Y., under the Act of March 3, 1879.*
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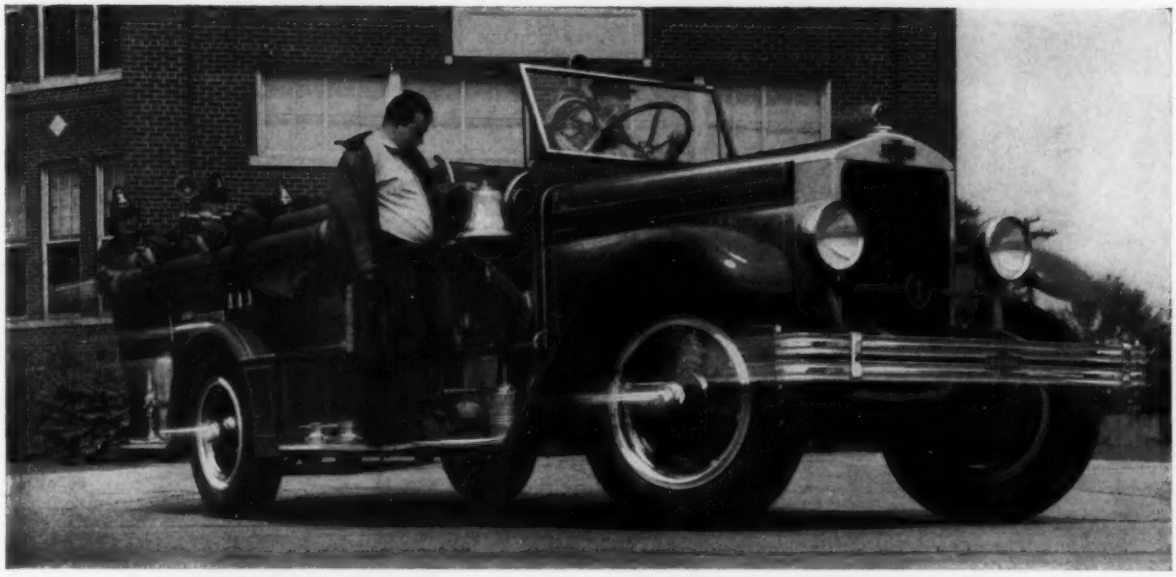
# "because THEY ARE SAFER!"



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Fire trucks must travel SAFELY as well as FAST. That means safe tires—and to fire chiefs the country over, it means Goodyear Tires.

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# GOODYEAR TRUCK TIRES

# WILL IT BE **THIS** OR **THIS** ?

## THE FIRST FIVE MINUTES WILL TELL . . .

The picture at the right shows firemen fighting a stubborn blaze recently in a large plant near New York. This fire, like most fires, started small—yet hours of fighting and hundreds of tons of water were required to bring it under control. Why? Because no one happened to be near where the fire started *when* it started . . . or in two words, BELATED DISCOVERY.

The picture at the left represents a fire at a large St. Louis hospital on July 15. This fire started at night in a storage room in an infrequently visited part of the basement. Here, also, there was no human being nearby to discover it—yet this fire was put out by the fire department with only a chemical hand extinguisher, with total damage estimated at less than $5.00. Why? Because it was DISCOVERED AUTOMATICALLY, WHEN IT STARTED, BY THE A. D. T. AERO AUTOMATIC FIRE ALARM.

Aero *automatically* detects fire when it starts, *automatically* summons the fire department direct to the scene. Thus, by saving those *critical first few minutes,* Aero keeps losses to the minimum.

The efficiency of Aero is proved by its record. During the past ten years fire losses in Aero protected properties have averaged less than three cents per hundred dollars of insurable values.

**A. D. T. Fire Protection Services**

"AERO" AUTOMATIC FIRE ALARM : : SPRINKLER SUPERVISORY AND WATERFLOW ALARM SERVICE : : WATCHMAN SUPERVISORY AND MANUAL FIRE ALARM SERVICE

*Descriptive booklets will be sent upon request.*

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AGAINST FIRE, BURGLARY AND HOLDUP

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# *Effective* Fire Fighting *requires* DEPENDABLE HOSE

## MANHATTAN
## RADIO-ACTIVE TREATED MILDEW-PROOF FIRE HOSE IS

**DEPENDABLE**—effectively protected from mildew, moisture, rot and freezing by an original and exclusive process perfected by Manhattan chemists. Impregnated with radio-active, rare earth metal salts, this hose retains original strength and flexibility throughout its long life.

**DURABLE**—because of its tough and rugged construction, supplemented by the radio-active treatment, the life of Manhattan Fire Hose is limited only by natural wear or possible accident in use. Careful drying is unnecessary. Manhattan Hose service records of over 30 years are on record.

**EASY TO HANDLE—FLAT FOLDING**—Manhattan Hose not only assumes a flat shape easily for folding, but retains the maximum strength of fabric when rounded out under pressure, as it has been finally cured in its naturally rounded shape.

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**THE MANHATTAN RUBBER MFG. DIVISION**
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*Sole Manufacturers of Radio-Active Treated Mildew-Proof Fire Hose*

**Executive Offices and Factories, 52 Townsend Street, Passaic, N. J.**

Birmingham, Chicago, Cleveland, New Orleans, New York, Minneapolis, Detroit, Pittsburgh, Philadelphia, St. Louis, Boston

# What Price Delayed Alarms ?

**PROPERTY DESTROYED . . . $4,000,000,000**

**HUMAN LIVES LOST . . . . . 100,000**

**INDIRECT FIRE WASTE . . . ? ? ? ?**

THE National Fire Loss for Ten Years—1926-1935—Exceeded These Figures. Yet Nearly All Fires May Be Extinguished in Their Incipiency by a Bucket of Water.

The most frequent cause of *Delayed Alarms* is:

**INADEQUATE FIRE ALARM BOX DISTRIBUTION**

"Boxes shall be located so as to suitably protect the city or town."
*National Board of Fire Underwriters.*

"There is practically no city where there are enough fire alarm boxes."
*Chamber of Commerce of the United States.*

The Fire Alarm Box is the only ever accessible means for transmitting alarms *directly* to the *fire department.*

***The Three-Fold Fire Alarm Box***

**"A Box a Block" in congested high value districts; not more than 500 feet to the nearest box in closely built residential districts; convenient to every group of buildings, manufacturing establishments, and institutions in sparsely built districts is generally a safe rule to follow.**

**THE GAMEWELL COMPANY**
NEWTON UPPER FALLS MASSACHUSETTS

# Why Gamble With Public Safety When Such Protection is Available?

# FIRE ENGINEERING

The Journal of the Fire Protection Profession

Volume 89 OCTOBER, 1936 No. 10

## With the Editor

**What is Good Hose Worth?** Over the protest of her capable Chief, a large Ohio city recently purchased Underwriters' specification hose for the Fire Department. The city purchasing agent decided a price in excess of one dollar a foot was "excessive" and that the specification hose selling at 70 cents a foot was "just as good" as $1.10 or $1.20 hose.

Despite the fact that hose in the department is frequently subjected to pressures at fires in excess of 300 pounds per square inch and further that the hose receives severe usage, the purchasing agent is willing to place in the hands of the department an article that is materially below the better standard grades of fire hose.

Like many of the uninformed, he apparently considers the Underwriters' Label as a mark of quality. If so, he should be told that Underwriters specification hose is the poorest quality the Underwriters will accept—not the best. Further, that Underwriters' hose is not designed to stand the high pressures encountered in modern sky-scraper cities.

It would be interesting to know if this particular purchasing agent buys the cheapest tires he can get for his car; if he is willing to risk his life to save a few dollars. Unless he is willing to take such a chance himself, there's no justification for his placing the lives of others in jeopardy, even to the least degree. For, after all, the safety of the men who will have to use the hose he buys will depend largely on its ability to stand up under severe service.

* * *

**Trends in Pumps** The last three large purchases of pumpers by the New York Fire Department were of machines equipped with centrifugal pumps. Newark, N. J., recently bought her first centrifugal pumper. Other cities report their "firsts" this year.

All of which brings up the question: "What is the trend in pump types?"

A survey recently made by this journal indicates that at the present time slightly over 75% of all pumping engines being bought by Fire Departments are of the centrifugal type. This figure includes the smaller as well as the larger units, but does not include primers used on centrifugals.

As to the trend, most manufacturers seem to feel that the centrifugal is gaining in popularity; some report that the rotary is holding its own.

This much may be said however: the fire apparatus field is not static today. Except for the period of motorization of horse drawn apparatus, the past two years have shown more real improvement in apparatus design than any other period of similar length in the history of fire fighting.

Fred. Shepperd

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# Handball Keeps Firemen Fit

## Milwaukee Fire Department Members Play Game Regularly for Exercise and Sociability—Some of the Firemen Have Developed Into Champions

By H. T. FRIERMOOD*

**Members of Milwaukee Fire Department Prominent in Handball**

Left to right—Armin Lehmann, Private, Truck Co. No. 7; Deputy Chief Engineer Charles H. Tremain; Clarence Ehlers, Private, Engine Co. No. 1

WHEN the fire alarm comes in firemen must be ready. Life and property endangered by fire every day of the year need protection by firemen who are physically fit. An important question that needs to be asked in every town and city throughout the land is, "Fireman *can* you save my child?"

Ever since the great World War, with its draft information and figures on the poor health and physical inefficiency of America's young manhood, new emphasis has been placed on fitness. The schools with their health and physical education programs have focused the interest of pupils and parents on this important phase of modern living. Industry has evolved great changes in its personnel division work through health and recreation programs; private organizations and institutions have shown concern and made real progress in encouraging health education and play as a means to better living; local, state, and federal governmental agencies have sponsored numerous projects for private citizens; but all too frequently the public servants, those responsible for the safety and happiness of all citizens, have been neglected in this field.

*Editor, *Journal of Physical Education*, Y. M. C. A., Dayton, Ohio.

### Fire Department Enters Handball Field

In 1927 Raymond N. Sellon, Y. M. C. A. physical director, approached Peter Steinkellner, Chief of the Milwaukee, Wis., Fire Department with the idea of the firemen participating in Y. M. C. A. handball tournaments. Responsibility for this program was assigned to Deputy Chief Engineer Charles H. Tremain, who had observed a few of the firemen playing handball on improvised courts against the outside walls of the fire houses, sign boards, and fences even before he joined the department in 1908.

With definite promotion and official recognition of the handball program, interest grew rapidly. As time went on and the department became completely motorized, the men were granted permission to build handball courts in the space formerly used for hay storage. Some of the early courts have been remodeled and at the present time in this city of about 600,000 population there are still four of these "hay storage" courts in use, as well as two courts that were built in space formerly used as horse stalls, two outside courts (one of them is also used as a watershed in connection with Drill School Evolutions), and three regulation sized four wall courts.

### Dimensions and Cost of Courts Vary

While many championship players would be handicapped by the low ceilings and narrow widths of the hayloft and stable courts that range in size from 32 feet 8 inches to 40 feet 6 inches in length; 13 feet 2 inches to 15 feet 8 inches in width, and 11 feet 8 inches to 14 feet in height, the two outdoor courts or the three standard indoor courts 45 feet long, 22 feet wide, and 22 feet high would please even such well known players as Joe Platak, Sam Atcheson, Angelo Trulio, Paul Banuet, or "Believe It or Not" Robert Ripley.

The estimated cost of building these courts varies from $250 for the smaller courts to $1,000, depending upon the materials used and the size. This expense has of course been spread out over a period of nine years, with the first of the three regulation courts being completed in 1932. This was the year the first Fire Department tournament was held. Five of these annual tournaments have been conducted to date, with approximately 150 members of the Department competing, in four different divisions, graded according to ability to make for equal and interesting play. In addition to the tournament players Deputy Chief Tremain says:

"We have a like number playing handball throughout the Department for recreation. We have found that the men who play handball are much better fitted to perform their duties and also have found that they are less susceptible to injury or sickness than the men who do not play."

### Committee Governs Handball Playing

Handball playing in the department is governed by a Committee, of thirteen members. Nine of this group are democratically elected by the handball players from each of nine Assistant Chief Districts, three more are selected at large by the Committee, and Mr. Tremain serves as advisor. This committee has charge of all handball matters as concerns the Fire Department, either in departmental tournaments or in invitational or open tournaments, where members might wish to represent the department.

### Rules and Regulations of Committee

Committee meetings, held several times a year, always bring out a 100 per cent attendance. The committee elects its own Secretary and Treasurer. Recent Rules and Regulations adopted by the committee state that:

"All members of the Fire Department and men on eligible list can enter the Fire Department Tournament.

"In all invitation tournaments members of the Fire Department must register through the Committee. If a member is chosen outside of the Fire Department, he must be sanctioned by the Fire Department Committee.

"Committeemen assigned to courts will have charge of courts and games. They will be held responsible for the refereeing of all games, for posting of all scores, and forwarding of original score cards to the sponsor.

"Teams are to report to committeemen in plenty of time, so they can be ready to play as scheduled (15 minutes delay will forfeit the game).

"Players are to wear white, and shall wear athletic supporters for their own protection.

"The referee will decide all questions of playing rules.

"Officers in charge of Companies, where courts are located, will assist the Committeemen, in preserving order, if requested.

"Entries for tournaments to close two weeks prior to the date selected for the start of the tournament.

"A classification committee consisting of three members will be assisted by the district's elected committeeman. Classification of members of minor classes will not be changed except when placing in the Fire Department tournament or if placing in any invitation tournament in which case they shall be raised one class above the class in which they placed.

"The official ball shall be named by the committee.

"One hour is allowed for each match.

"The prize committee shall secure the following awards:

"Class 'A'—for first three teams.
"Class 'B'—for first three teams.
"Class 'C'—for first four teams.
"Class 'D'—for first eight teams.

"A round robin will be conducted for classes 'A' and 'B.' In classes 'C' and 'D' there will be a class elimination down to eight teams and a round robin will be held for the final eight teams.

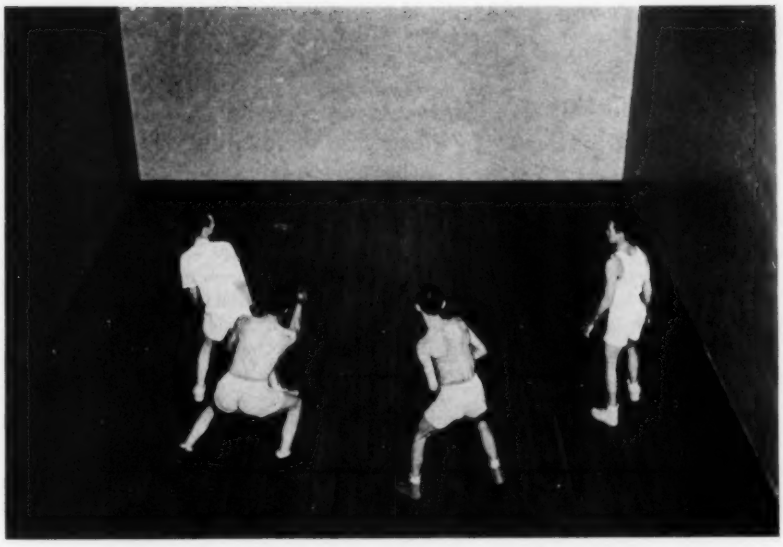
"Y. M. C. A. playing rules will govern all play."

During the past season, with 24 Class "A," 16 "B," 38 "C," and 70 Class "D" players, the actual tournament schedule lasted about a month. Only the three official courts were used in this manner leaving all of the other courts open for informal recreational play and practice.

### Firemen Winners in Tournaments

While the department has participated in invitational and open tournaments, during the past eight years, its firemen have carried off the majority of places in the tournaments engaged in. Private Clarence Ehlers, this year's department Class "A" winner (while paired with 6th District Chief Felix Stehling), is also Wisconsin State Y. M. C. A. singles champion, and teamed up on the winning doubles combination. He took the Wisconsin A. A. U. singles title and with Private Gilbert Miller won the doubles championship. Ehlers and Christie went to the quarter-finals in the National Y. M. C. A. doubles tournament held in Minneapolis last February and Ehlers also went to the quarter-finals in the singles event.

Ehlers and Armin Lehmann (this year's department Class "B" winner when teamed with George Treichel), were sent to the national A. A. U. handball tournament held in Los Angeles May 25 to 30. Ehlers again went to the quarter-finals in the singles, losing after a splendid battle to Joe Platak, of Chicago, the final winner. The Milwaukee Fire Department handball players have developed into nationally known athletes.



A Fast Foursome Battling for Victory in a Handball Doubles Match

### Handball Played for Health and Recreation

Figures recently released by the National Recreation Association show that 96 cities reported nearly 50,000 participants using 1,426 regular public and emergency handball courts last year. Two years previous 912 public courts had been reported in use. This fast game, first introduced to the United States in 1887, is played for health and recreation the year round and is adding new devotees by the thousands. The Milwaukee firemen have joined this great throng of players whose ranks swell into the hundreds of thousands when all the private courts are taken into consideration.

Handball playing in the Milwaukee Fire Department is a voluntary matter, but everything is made as attractive as possible to get the members interested in the game. Prominent handball players in the country are invited to stop at Milwaukee and give demonstrations to firemen packed galleries. The department is frequently called upon to give exhibitions in connection with dedication exercises and special programs at Y. M. C. A.'s and at industrial handball courts throughout the state.

The spirit of friendship and sociability has been greatly promoted by a big annual banquet with one of the larger fire stations, that houses more than one company, serving as host. The department place winners, friends, and neighborhood business men come together for a good social time and to participate in a program to honor the winners. These banquets have served to bring about a better spirit of cooperation between the business men and the department. One of the largest banquets held thus far brought out 248 guests. Chief Steinkellner says:

"I am very much in favor of my men playing handball and permit them to play even when on duty, at such times that it does not interfere with their regular departmental work—providing the weather is not so severe that they would endanger their health by playing and then having to leave quarters on a fire call. There is, however, one condition under which the members play and that is that any injury received while playing handball does not come under the classification of an injury received in the line of duty and therefore does not entitle him to come under the State Compensation Act."

Milwaukee Fire Department visitors are sometimes curious when they see boots standing and pants neatly laid out near a door marked "Handball Court," but if they happen to be on hand when a fire alarm comes they will be no end surprised to see firm muscled athletes come bolting out of the court, jump into boots, pull up pants, snatch up coats and be off in a flash on a run, as high grade firemen, to save life and property. Even though one of the class "A" players is named H. Burnhouse, the main job of these men is that of efficient protection, and physical efficiency secured through regular handball play keeps them always ready!

# What Does Fire Protection Cost?

## United States Census Bureau Releases Statistics Showing Fire Department Expenses of 94 Cities of 100,000 Population and Over

STATISTICS relating to Fire Department expenses of the 94 cities having a population of over 100,000 for the fiscal years 1934, 1933 and 1926 were recently released by Director William L. Austin, Bureau of the Census, Department of Commerce.

The percapitas for 1933 and 1926 are based on the estimated population as of the middle of the fiscal year of each city, and those for 1934 are based on the estimated population as of July 1, 1933, no later estimates having been made, except for Washington, D. C., estimated as of January 1, 1934.

These statistics cover the government of the city corporation proper and also independent districts practically coextensive with the cities. They also include a percentage of the financial transactions of the county government for cities having over 300,000 population, in order that data for such cities may be comparable with those of other cities in this class, in which the ordinary county functions are performed by the city government.

Included in expenses of Fire Department are payments for water service in those cities in which the water supply system is privately owned. In those cities having municipally-owned water supply systems there is no uniformity as to water charges. Of the 94 cities included in this survey, only 10 have privately-owned water-supply systems. Of the remaining 84 cities operating their own systems, 60 do not set up in their accounts any payments for water used by the Fire Department.

Classification of expenditures is based on functional activities and not on fund or budgetary appropriations.

### Payments for Operation and Maintenance of the Fire Department Compared with Payments for Operation and Maintenance of all General Departments: 1934, 1933 and 1926

| City | Total | Operation and Maintenance of Fire Department 1934 Per capita | 1934 Per cent of all general departments | 1933 Per capita | 1933 Per cent of all general departments | 1926 Per capita | 1926 Per cent of all general departments |
|---|---|---|---|---|---|---|---|
| Grand Total | $107,273,350 | $2.85 | 6.1 | 2.84 | 6.2 | $3.14 | 7.6 |
| Group I | 62,342,318 | 2.83 | 5.2 | 2.82 | 5.2 | 3.01 | 6.5 |
| Group II | 13,881,842 | 3.01 | 6.9 | 2.91 | 6.9 | 3.47 | 8.7 |
| Group III | 31,049,190 | 2.84 | 9.2 | 2.87 | 9.0 | 3.27 | 10.2 |
| **Group I.—Cities of 500,000 and Over** | | | | | | | |
| New York, N. Y. | $21,588,383 | $3.02 | 4.2 | $3.13 | 4.6 | $2.93 | 6.0 |
| Chicago, Ill. | 6,119,937 | 1.75 | 4.9 | 1.74 | 4.4 | 2.07 | 5.0 |
| Philadelphia, Pa. | 4,326,633 | 2.19 | 5.6 | 1.81 | 4.5 | 2.33 | 5.5 |
| Detroit, Mich. | 4,272,083 | 2.56 | 5.9 | 2.24 | 5.4 | 3.24 | 7.4 |
| Los Angeles, Cal. | 5,105,409 | 3.77 | 7.0 | 3.92 | 7.3 | 3.52 | 6.5 |
| Cleveland, Ohio | 2,078,298 | 2.26 | 4.9 | 2.19 | 4.9 | 2.88 | 6.5 |
| St. Louis, Mo. | 1,996,777 | 2.40 | 6.4 | 2.53 | 6.9 | 2.48 | 6.8 |
| Baltimore, Md. | 2,811,378 | 3.44 | 8.2 | 3.24 | 8.4 | 3.36 | 9.8 |
| Boston, Mass. | 3,209,944 | 4.08 | 5.5 | 4.25 | 5.6 | 4.78 | 7.7 |
| Pittsburgh, Pa. | 2,023,692 | 2.98 | 6.0 | 2.63 | 5.6 | 3.24 | 6.4 |
| San Francisco, Cal. | 3,038,901 | 4.63 | 9.1 | 4.42 | 8.6 | 5.64 | 13.3 |
| Milwaukee, Wis. | 1,697,209 | 2.83 | 4.6 | 2.77 | 5.0 | 3.14 | 7.2 |
| Buffalo, N. Y. | 2,102,616 | 3.60 | 5.0 | 4.14 | 5.6 | 4.03 | 7.3 |
| Washington, D. C. | 1,971,058 | 3.98 | 5.7 | 4.07 | 6.5 | 4.14 | 7.7 |
| **Group II.—Cities of 300,000 to 500,000** | | | | | | | |
| Minneapolis, Minn. | $1,119,370 | $2.34 | 4.7 | $2.11 | 5.2 | $2.85 | 7.1 |
| New Orleans, La. | 1,282,863 | 2.72 | 10.7 | 2.70 | 10.8 | 2.52 | 9.7 |
| Cincinnati, Ohio | 1,208,110 | 2.63 | 5.0 | 2.55 | 5.3 | 3.00 | 7.4 |
| Newark, N. J. | 2,072,073 | 4.64 | 7.7 | 4.18 | 7.1 | 4.94 | 8.6 |
| Kansas City, Mo. | 729,875 | 1.77 | 5.4 | 2.04 | 5.7 | 2.39 | 5.9 |
| Seattle, Wash. | 1,317,575 | 3.52 | 8.9 | 3.24 | 8.1 | 4.60 | 11.3 |
| Indianapolis, Ind. | 1,721,099 | 4.63 | 13.8 | 4.00 | 11.1 | 4.66 | 12.9 |
| Rochester, N. Y. | 1,054,794 | 3.16 | 4.2 | 3.09 | 4.8 | 3.80 | 7.1 |
| Jersey City, N. J. | 1,218,051 | 3.81 | 6.0 | 4.18 | 6.4 | 4.97 | 8.9 |
| Houston, Texas | 543,860 | 1.71 | 7.4 | 1.74 | 7.8 | [1]2.29 | [1]9.3 |
| Louisville, Ky. | 598,354 | 1.88 | 5.9 | 1.85 | 5.9 | 1.94 | 7.3 |
| Portland, Ore. | 1,015,818 | 3.29 | 9.3 | 3.34 | 8.1 | [1]3.52 | [1]11.5 |
| **Group III.—Cities of 100,000 to 300,000** | | | | | | | |
| Columbus, Ohio | $599,685 | $2.00 | 7.9 | $2.08 | 6.7 | $2.73 | 9.6 |
| Toledo, Ohio | 725,095 | 2.43 | 9.3 | 2.73 | 8.4 | 3.23 | 10.2 |
| Oakland, Cal. | 1,075,348 | 3.64 | 11.5 | 3.96 | 11.6 | 4.61 | 13.2 |
| Denver, Col. | 918,107 | 3.13 | 7.5 | 3.30 | 8.0 | 3.31 | 7.9 |
| Atlanta, Ga. | 673,240 | 2.40 | 9.1 | 2.20 | 8.9 | 2.70 | 10.4 |
| Dallas, Texas | 622,441 | 2.24 | 11.5 | 2.48 | 10.0 | 2.91 | 12.0 |
| St. Paul, Minn. | 806,109 | 2.90 | 10.8 | 3.44 | 12.2 | 3.88 | 12.4 |

[1]Per cent of county transactions not included.

## Payments for Operation and Maintenance of the Fire Department Compared with Payments for Operation and Maintenance of all General Departments: 1934, 1933 and 1926 (Continued)

Group III.—Cities of 100,000 to 300,000 (continued)

| City | Total | Operation and Maintenance of Fire Department | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1934 | | 1933 | | 1926 | |
| | | Per capita | Percent of all general departments | Per capita | Percent of all general departments | Per capita | Percent of all general departments |
| Birmingham, Ala. | $509,728 | $1.87 | 12.2 | $1.87 | 12.0 | $2.64 | 13.2 |
| Akron, Ohio | 302,406 | 1.14 | 5.1 | 1.06 | 4.4 | 1.68 | 6.6 |
| Memphis, Tenn. | 576,377 | 2.20 | 11.7 | 2.23 | 12.3 | 3.28 | 12.1 |
| Providence, R. I. | 1,081,998 | 4.23 | 9.6 | 4.57 | 9.4 | 4.28 | 11.7 |
| San Antonio, Texas | 291,591 | 1.20 | 8.4 | 1.20 | 8.3 | 2.40 | 11.1 |
| Omaha, Neb. | 581,231 | 2.67 | 11.0 | 2.62 | 10.0 | 4.16 | 12.6 |
| Syracuse, N. Y. | 822,743 | 3.84 | 7.1 | 3.83 | 7.7 | 4.01 | 10.3 |
| Dayton, Ohio | 380,942 | 1.84 | 7.7 | 1.81 | 5.9 | 2.34 | 7.8 |
| Oklahoma City, Okla. | 324,506 | 1.61 | 9.1 | 1.83 | 9.2 | 1.82 | 8.9 |
| Worcester, Mass. | 835,082 | 4.22 | 7.8 | 3.93 | 7.3 | 4.22 | 9.2 |
| Richmond, Va. | 495,543 | 2.68 | 8.8 | 2.68 | 8.2 | 3.13 | 10.9 |
| Youngstown, Ohio | 335,527 | 1.93 | 6.1 | 1.75 | 5.3 | 1.86 | 6.7 |
| Grand Rapids, Mich. | 437,156 | 2.53 | 9.0 | 2.91 | 7.7 | 4.29 | 12.0 |
| Fort Worth, Tex. | 419,982 | 2.48 | 11.1 | 2.48 | 11.7 | 2.47 | 11.8 |
| Hartford, Conn. | 661,253 | 3.92 | 7.5 | 4.18 | 7.8 | 4.38 | 10.2 |
| Flint, Mich. | 295,904 | 1.77 | 5.8 | 1.37 | 5.0 | 2.94 | 10.5 |
| New Haven, Conn. | 872,725 | 5.36 | 11.7 | 3.93 | 8.2 | 4.24 | 11.1 |
| San Diego, Cal. | 342,651 | 2.14 | 7.7 | 3.19 | 9.9 | 2.69 | 7.9 |
| Long Beach, Cal. | 463,233 | 2.95 | 8.4 | 3.22 | 8.9 | 3.04 | 7.0 |
| Nashville, Tenn. | 493,338 | 3.16 | 14.6 | 3.18 | 15.3 | 2.81 | 13.7 |
| Springfield, Mass. | 761,899 | 4.97 | 8.7 | 4.86 | 8.0 | 5.31 | 10.5 |
| Tulsa, Okla. | 345,123 | 2.33 | 11.7 | 2.54 | 11.1 | 2.73 | 9.4 |
| Bridgeport, Conn. | 845,204 | 5.74 | 10.8 | 5.64 | 11.1 | 4.91 | 13.4 |
| Des Moines, Iowa | 516,517 | 3.55 | 12.6 | 3.64 | 11.6 | 3.72 | 10.1 |
| Scranton, Pa. | 484,205 | 3.35 | 10.6 | 3.11 | 9.2 | 3.05 | 10.3 |
| Salt Lake City, Utah | 222,310 | 1.54 | 5.6 | 1.48 | 5.9 | 1.61 | 5.7 |
| Yonkers, N. Y. | 477,354 | 3.40 | 5.1 | 3.90 | 5.5 | 3.39 | 6.5 |
| Paterson, N. J. | 579,003 | 4.17 | 9.4 | 4.14 | 10.1 | 4.70 | 12.0 |
| Jacksonville, Fla. | 445,756 | 3.21 | 12.5 | 3.09 | 12.1 | 2.83 | 10.2 |
| Albany, N. Y. | 539,447 | 4.16 | 7.8 | 3.96 | 8.2 | 3.59 | 9.5 |
| Norfolk, Va. | 421,919 | 3.25 | 11.0 | 3.53 | 14.1 | 4.60 | 16.2 |
| Trenton, N. J. | 463,604 | 3.74 | 10.2 | 3.77 | 8.9 | 3.84 | 10.1 |
| Chattanooga, Tenn. | 371,667 | 3.01 | 15.7 | 3.02 | 16.4 | 3.24 | 13.4 |
| Kansas City, Kan. | 354,636 | 2.87 | 16.1 | 2.95 | 13.5 | 2.96 | 12.6 |
| Fort Wayne, Ind. | 286,654 | 2.39 | 11.9 | 2.32 | 10.8 | 2.96 | 11.8 |
| Camden, N. J. | 328,580 | 2.76 | 9.0 | 2.37 | 7.3 | 3.48 | 10.3 |
| Erie, Pa. | 259,341 | 2.19 | 8.9 | 2.21 | 8.6 | 2.55 | 10.1 |
| Elizabeth, N. J. | 478,934 | 4.06 | 11.1 | 3.75 | 9.4 | 3.97 | 12.6 |
| Wichita, Kan. | 254,188 | 2.16 | 9.2 | 2.19 | 9.2 | 2.25 | 8.9 |
| Spokane, Wash. | 240,709 | 2.06 | 8.9 | 2.12 | 8.5 | 3.01 | 10.1 |
| Fall River, Mass. | 307,004 | 2.66 | 8.0 | 2.80 | 8.4 | 3.83 | 8.6 |
| Cambridge, Mass. | 431,462 | 3.77 | 7.5 | 3.59 | 7.0 | 3.43 | 7.8 |
| New Bedford, Mass. | 358,716 | 3.19 | 8.6 | 3.24 | 8.5 | 4.27 | 9.8 |
| Reading, Pa. | 132,673 | 1.19 | 4.4 | 1.19 | 4.3 | 1.09 | 4.5 |
| Knoxville, Tenn. | 253,951 | 2.30 | 11.2 | 2.18 | 9.8 | 2.44 | 10.2 |
| Peoria, Ill. | 236,495 | 2.15 | 8.6 | 2.45 | 9.8 | 2.38 | 10.3 |
| South Bend, Ind. | 212,435 | 1.94 | 9.5 | 2.03 | 10.1 | 3.13 | 11.5 |
| Tacoma, Wash. | 373,256 | 3.45 | 13.1 | 3.85 | 14.3 | 3.54 | 12.3 |
| Miami, Fla. | 305,544 | 2.82 | 9.6 | 2.79 | 10.0 | 3.31 | 6.3 |
| Gary, Ind. | 293,282 | 2.72 | 11.8 | 2.69 | 11.3 | 2.57 | 8.3 |
| Canton, Ohio | 153,072 | 1.42 | 6.0 | 1.51 | 6.8 | 1.91 | 7.7 |
| Wilmington, Del. | 321,467 | 3.02 | 10.9 | 3.00 | 10.3 | 2.73 | 10.5 |
| Tampa, Fla. | 195,991 | 1.84 | 8.2 | 1.87 | 8.0 | 2.54 | 7.5 |
| Somerville, Mass. | 317,707 | 3.00 | 7.2 | 2.97 | 7.8 | 2.74 | 9.5 |
| El Paso, Tex. | 194,843 | 1.84 | 12.7 | 2.27 | 13.6 | 2.13 | 9.5 |
| Evansville, Ind. | 294,876 | 2.81 | 13.7 | 2.81 | 13.5 | 2.86 | 13.1 |
| Lynn, Mass. | 459,518 | 4.47 | 9.9 | 3.97 | 8.8 | 3.80 | 11.3 |
| Utica, N. Y. | 467,434 | 4.56 | 9.6 | 4.25 | 9.5 | 3.71 | 10.7 |
| Duluth, Minn. | 253,809 | 2.49 | 8.0 | 2.55 | 8.7 | 3.67 | 10.6 |
| Waterbury, Conn. | 543,794 | 5.37 | 11.7 | 3.97 | 9.4 | 4.76 | 11.3 |
| Lowell, Mass. | 320,870 | 3.20 | 8.1 | 3.60 | 9.2 | 4.23 | 10.4 |

## A Challenge

The Eastern Association of Fire Chiefs is now but 50 less in membership than the New England Association of Fire Chiefs, and approximately 75 less than the Pacific Coast Association. During the past year the Eastern Association showed the greatest growth in membership by far of any of the District organizations.

To stir up rivalry in enrolling new members, George Morley, Honorary Life Member (Eastern District), has issued a challenge to all other manufacturers' representatives to turn in as many new members between now and next year's convention as he. The challenge is open to all Districts.

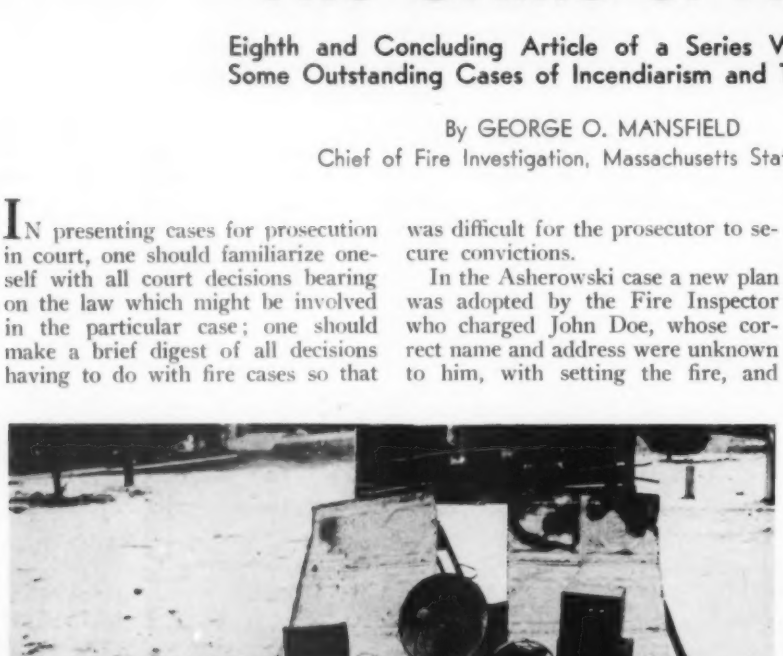
Membership blanks, information, etc., for the asking. Write Headquarters Office, International Association of Fire Chiefs, 24 West 40th Street, New York City.

# The Crime of Arson

## Eighth and Concluding Article of a Series Which Covered Some Outstanding Cases of Incendiarism and Their Detection

By GEORGE O. MANSFIELD
Chief of Fire Investigation, Massachusetts State Police

IN presenting cases for prosecution in court, one should familiarize oneself with all court decisions bearing on the law which might be involved in the particular case; one should make a brief digest of all decisions having to do with fire cases so that they will be readily accessible when the occasion arises.



**Disregard of the Law Was Found After This Fire**
Although no cooking of food was permitted in the rooms of this buikding, plenty of utensils were found during the investigation of the fire.

To illustrate the value of this procedure, some of the decisions are briefly related which are used in many cases which arise in Massachusetts. Take for instance, the case of Commonwealth vs. Asherowski, 196 Massachusetts 342. This case arose in 1907 and the facts were briefly—a fire was discovered in a business house, the building securely locked; the presence of flammable liquids, trailers and great preparation to spread the fire and much evidence of incendiarism, with the owner's and occupants' whereabouts accounted for and the keys in their possession. Prior to this particular case there had been fires with a similar set of facts and the owner and occupants being able to set up an alibi accounting for their presence in some point other than the scene of the fire, it was difficult for the prosecutor to secure convictions.

In the Asherowski case a new plan was adopted by the Fire Inspector who charged John Doe, whose correct name and address were unknown to him, with setting the fire, and charged the owner Asherowski with being an accessory before the fact. The case was tried before a jury which returned a verdict of guilty. On an appeal to the Supreme Court, the Court upheld the verdict and ruled that some person procured to do so by the defendant set the fire—that no one else could have done it without the defendant's knowledge. That is to say, the Court laid stress on the fact of the place being locked, great preparation of incendiarism and the keys being in the possession of the defendant. This was sufficient to show that if the defendant did not set the fire, whoever set it had to do so with the knowledge and assistance of the defendant.

As a result of this Asherowski case Fire Inspectors immediately proceeded in numerous cases on similar complaints and have met with great success. Many appeals were taken to the Supreme Court subsequent to the one already mentioned, but this case has continually been re-affirmed and additional law laid down by the Supreme Court gave the prosecution still more power along the lines already stated.

### Finances and Fraud

For instance, in the case of Commonwealth vs. Herbert Cooper, 264 Massachusetts 368, facts similar to the Asherowski case, the Supreme Court said:

"It well may be found in certain circumstances that one in easy financial condition might still set the fire to defraud an insurance company."

In this case the defendant had shown large bank deposits of actual cash. Other good law in this case: "evidence of the cost of store fixtures when new some months before the fire not admissable, but that the only pertinent evidence was as to the value of such fixtures at the time of the fire." Also "evidence of breaking and entering in the building where the store of the defendant was located at another time was incompetent."

### Proving Over-Insurance

Commonwealth vs. Selesnick—272 Massachusetts 354. "Policies other than those mentioned in the indictment may be properly admitted in evidence to show full amount of insurance." This being for the purpose of proving over-insurance. Evidence is admissible to show defendant's need of money.

Commonwealth vs. Alba—271 Massachusetts 333. "The intent to injure the insurance company may be established even though the persons expected to compel it to pay money to others than himself." This is where someone other than the person holding the insurance policy set the fire. The court referred to the Asherowski case for support of its decision and added additional support in the case of Commonwealth vs. Kaplan, 238 Massachusetts 250 at Page 254, "A direct benefit to the defendant is not made a necessary element of the crime."

Another and a more forcible point

was brought out in the Alba case. Heretofore inspectors would be somewhat disturbed if a door were found open at the time of the fire, as this fact would lessen the chances of proving that the defendant had the exclusive opportunity to set the fire. In this Alba case, where a door was found open by the firemen, the court said "the testimony of the defendants as to locking the doors, when considered with the evidence of those who responded to the fire alarm that the doors were found unlocked, would justify an inference that the person who set the fire had gained access to the building with the keys of the defendants."

### Financial Worries

Commonwealth vs. Haddad—250 Massachusetts 391, Page 397; "Evidence to show his financial embarrassment or that he was in need of money was competent."

Commonwealth vs. Goldstein—114 Massachusetts 272, Page 277; "It is not material in whose name the goods were insured. The crime consisted in burning them with intent to injure the insurer, whether the defendant, or any other person, owned them or procured them to be insured."

Commonwealth vs. Hudson—97 Massachusetts 565 at Page 566. Further substantiated by Commonwealth vs. Farmer—218 Massachusetts 506. "Evidence was admitted to show that the defendant had a strong peculiar motive to commit the crime with which he was charged. This evidence, we think, was admissible. It tends to repel the presumption which exists that a man will not commit a crime without a reason, inducement or temptation. The evidence showed undoubtedly a motive, peculiar and special to the person accused."

### No Fire Started

Until recently there has been only one decision in Massachusetts concerning a case of an attempt to burn and this was not entirely strong. It was the case of Commonwealth vs. Peaslee—177 Massachusetts 267. The facts of this were briefly, that preparations had been made to set a fire and the person had been requested to set such fire and had completed preparations, returned to his home and later started out again to set the fire. En route he changed his mind and did not set the fire. He and the owner who hired him were arrested and charged with the attempt. They were found guilty and on an appeal, the Supreme Court ruled that there had not been an attempt, as no fire had actually been started, but that had the defendant who was to set the fire, been apprehended at the scene and frustrated in the attempt by the authorities or frightened away, it might have been different. The Court also rules that the owner could be guilty of soliciting the other to commit the felony. Therefore the question of an attempt to start the fire was somewhat vague.

On the adoption of the Model Arson Law by the Commonwealth of Massachusetts, which contains a provision that an attempt shall be construed where there is the placing or distribution of any flammable explosive or combustible material or substance or any device in or against the building in an arrangement or preparation with intent eventually to wilfully and maliciously set fire to or burn such building, this situation was clarified.

Following the adoption of this law a case arose in which the facts briefly were these: A man was hired to burn a certain hotel. He went to the scene, gained admittance and made extensive preparations to set a fire, but before lighting the candle, which had been placed at a point to furnish the initial ignition, he was apprehended and as a result he and five others were indicted. Convictions were secured before a jury and an appeal was taken. While the facts of this particular case would justify a conviction under the old case of Commonwealth vs. Peaslee, as the defendant had been apprehended in the attempt, the Superior Court went further and laid down the law that the attempt is now covered by statute and the particular case comes within the statue. The Court said among other things "the statute has changed the pre-existing law. The purpose of its plain words is to declare a comprehensive definition of attempt broad enough to include such acts as shown to have been performed by the defendant. That is apparent from a simple reading of its words and an interpretation of them in their ordinary sense." Consequently in future cases of an attempt, no difficulty is anticipated because of this decision, previously mentioned, upholding the statute.

**Another Fire Plant That Failed to Function Properly**

In this case, bolts of cloth were wrapped around pasteboard boxes so that the cloth would burn more easily. As usual, the bolts of cloth burned only on the ends and outside.

This case, by the way, is Commonwealth vs. John Mehales and can be found in advance sheets 1963 only recently published, not having as yet reached the regularly compiled reports.

In this particular case an interesting point arose, in which an appeal was taken on the grounds that Mehales was hired to set the fire by the owner, and, therefore, doing it with the consent of the owner, there could be no malice against such owner.

This appeal no doubt was taken because of an old case Commonwealth vs. Makely, 131 Massachusetts 421, in which the courts said "That it would not be arson for the owner to burn his own dwelling, so consequent-

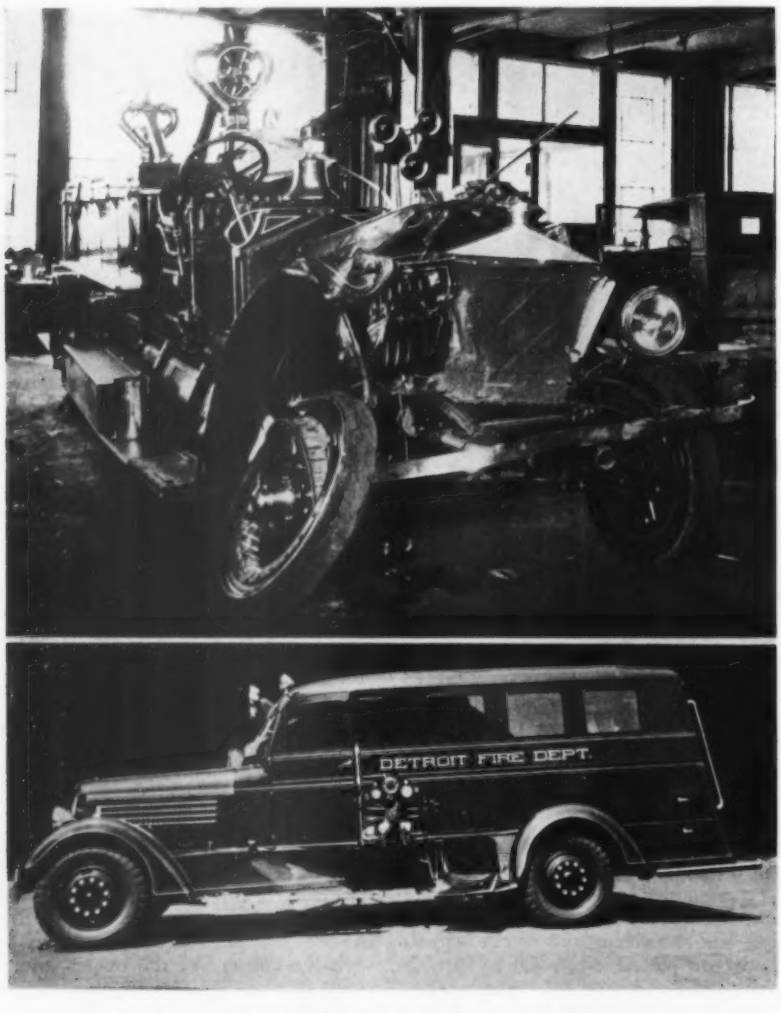
ly the person whom the owner procured to burn it could not be guilty of arson." This decision was correct at the time because the existing statute and common law held that the burning must be malicious, but, on the adoption of the Model Arson Law, the statute was changed whereby it was illegal not only for one to burn another's building, but also illegal for the owner to burn his own building.

Therefore, in the Mehales case, the court laid down the rule that the Makely case is no longer in effect, because now by the terms of the present statute the malicious burning of a building by the owner is made a crime, and added, "The malice now, under the statute, is not necessarily against the owner of the building, but that the malice, which characterizes all acts done with an evil disposition, a wrong and unlawful motive or purpose the wilful doing of an injurious act without lawful excuse. Malice in law is present in the case at bar because the design and intent of the defendant was to set the fire for the purpose of enabling the owner to collect insurance. There was malice in law towards the insurer or insurers. That is enough to constitute the statutory crime."

The following additional references as useful ones are cited: Commonwealth vs. Vellucci, advance sheets No. 2003; Commonwealth vs. Bade, advance sheets No. 461; Commonwealth vs. Jaffas, advance sheets No. 1969; Commonwealth vs. McCarthy, 119 Massachusetts 354; Commonwealth vs. Cali, 247 Massachusetts 20. Also Chapter 266, Section 111A, of the Tercentenary Edition, General Laws of Massachusetts; also Chapter 192, Acts of 1932 of Massachusetts.

Briefly, this gives you a picture of how court decisions are used to very good advantage in Massachusetts.

Such a digest of cases also is valuable in forcibly bringing points concerning cases to the attention of Prosecutors who always appreciate ready case decisions that will support some legal point that might, if unsupported, weaken the case.




**Two Pumpers of Detroit, Mich., that Collided on the Way to a Fire**

One fireman was killed, and two others narrowly escaped the same fate, when two fire trucks of the Detroit Department collided on the way to a fire. The accident was described in detail in the September issue. One, a pumper, had an enclosed body, and none of those in that car was injured. Chief Walter F. Israel said, "The men of Engine Company No. 1 all expressed the opinion that had they been riding in one of the old type pumpers, they would undoubtedly have been thrown to the pavement by the crash and probably have had serious injuries with the possibility of other fatalities. There is no doubt in my mind but what this accident has shown the value of a closed car in the matter of protecting the men in collisions." The two trucks involved are shown above.

## San Francisco Wants Sprinklers

Following the fatal fire in the Shamrock Club, San Francisco, Cal., which claimed four lives, Chief Charles Brennan has introduced an ordinance which provides for the installation of automatic sprinkler systems in the basements of all hotels, night clubs, hospitals, and semi-public buildings.

All frame buildings would be required to have automatic sprinklers throughout the entire building, and also a fire bell.

## Fire Study Made in Memphis by WPA

Every building in Memphis, Tenn., was inspected as part of a WPA fire hazard survey project, the work being done under the direction of the Memphis Fire Department.

The first of the WPA men were assigned to the department on February 24, 1936, and three days later eight men were assigned to each inspection district of the department, working under the supervision of the Captain or Lieutenant of that district.

The men were given about four days instruction at the Fire College in the proper method of approach, and in ordinary and technical fire hazards. After one week's field work, the men were reassembled in the Fire College for a discussion of the week's work, so that any problems they encountered could be smoothed out.

The inspectors were regrouped from time to time according to aptitude and ability. An inspector with good qualities was teamed with one who did not do so well; a fast worker with one who was slower; an inspector of good personal appearance, with one whose appearance was not so inviting.

Each evening a member of the Fire Marshal's office would visit each fire station and pick up the day's inspection cards, and also to discuss with each individual Captain or Lieutenant, in charge of the inspectors, different phases of the project.

The Fire Department tried to so train the men that the inspectors would be able to sell the public the idea that it was for their own good that the premises were being inspected. At the conclusion of the inspection, the men were instructed to thank the occupant for privilege of making the inspection.

# Gases, Chemicals and Hazardous Materials

## Part XII

**In this twelfth installment is continued the discussion of chemicals and hazardous materials more commonly encountered in fire-fighting. Methods of shipping and handling and their action under exposure to fire are given for most of the materials.**

**Sodium nitrate (also caled chili saltpetre, chili nitre, soda nitre):** This is a white crystalline substance, containing nearly half its weight of oxygen which it readily gives up when heated with oxidizable substances. It does not burn itself, but, being an oxygen carrier, it assists in the combustion of other material. When melted it will set on fire any combustible material with which it comes in contact. It is generally shipped in burlap bags containing about 200 pounds each, but it may also be found in tins and glass bottles. It is used in the manufacture of nitric acid, fertilizers, explosives, etc.

As it is an oxidizing material, it will increase the intensity of a fire. Bags or barrels may become impregnated with it, in which condition they are readily ignitable. In contact with organic or readily oxidizable (combustible) substances it will cause violent combustion on ignition.

Most fires involving sodium nitrate can safely be deadened with water in the early stages; at such times they should be flooded with water. When large quantities are involved in the fire, the sodium nitrate may fuse or melt, in which condition application of water would result in extensive scattering of the molten material, and, therefore, care should be taken in applying water to the

**Sodium perchlorate:** Usually shipped a dry place.
material after the fire has been burning in iron canisters, and glass bottles. It is an oxidizing material, and classes with for some time. It should be stored in hazard. It is dangerous to life under potassium chlorate in respect to fire storage.

**Sodium sulphide:** A yellow, lumpy or granular substance used in dye stuffs manufacture. A number of fires have occurred in this material, apparently from spontaneous heating of freshly made, freshly dried, or freshly ground substance, which is unstable, due to tendency to oxidize. It is moderately flammable and classes with potassium sulphide.

**Strontium nitrate:** A white powder largely used in marine signals, railroad flares, etc., for producing red flame. It is an oxygen carrier. It is similar to strontium chlorate, but slightly less in degree of hazard. It is usually shipped in barrels and boxes. It should be safeguarded against mechanical injury in storage and kept away from other materials.

**Sulphur (brimstone, sulfur):** A pale yellow solid or powder. It may be ignited at about 482° Fahr., burning with a relatively cool flame. It is largely used in the manufacture of wood pulp, in rubber compounding and in sulphuric acid manufacture. Large quantities are used in agricultural insecticide as bordeaux mixture and lime sulphur. It is used in bleaching and in various industrial, chemical and medicinal applications. It is a constituent of black powder. Alone, it is lightly hazardous, but on account of the suffocating sulphur dioxide gas formed when it burns, it is dangerous in the event of fire. Sulphur dioxide, however, does not support combustion, and its smothering effect may be used to extinguish chimney fires. In the presence of carbon, lampblack, and oils it may promote spontaneous combustion, while with chlorates and other oxygen carriers, it may be explosive. As noted before, the fumes are suffocating and they thus represent a life hazard, when the sulphur is involved in a fire.

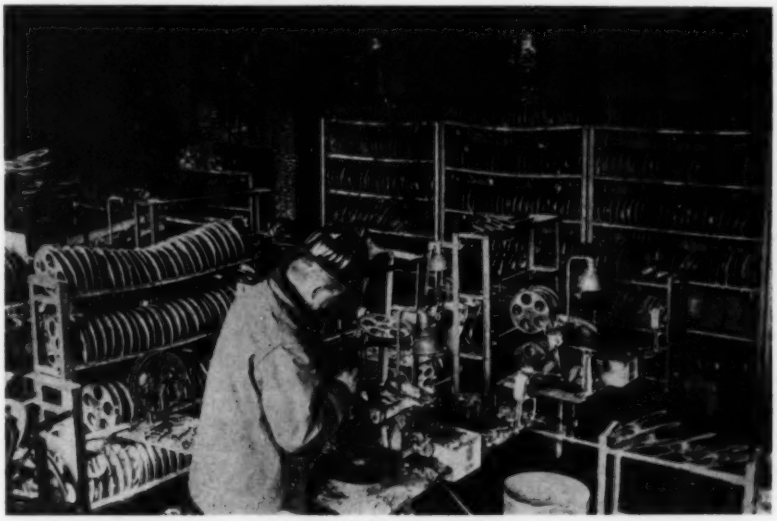
**Sulphuric acid:** There are two main classes of sulphuric acid. (1) Ordinary or non-fuming sulphuric acid, and (2) fuming sulphuric acid.

The first mentioned will char wood and other carbonaceous materials but it does not corrode iron to any extent. The second mentioned, the fuming sulphuric acid, is very active, attacking certain metals. It is used in almost every industry and is essential to the manufacture of explosives, dyes, fertilizers. Heat, generated by mixing water with the acid, may cause fire or explosion. It may cause ignition by contact with combustible materials. Sulphuric acid is usually shipped in carboys, iron drums, glass bottles and tank cars. The fumes as well as the liquid are highly corrosive and therefore dangerous to life, when met with under fire conditions. In storage, containers should be safeguarded against mechanical injury, isolated from saltpetre, metallic powders, carbides, fulminates, chlorates and combustible materials.

**Uranium nitrate:** A yellowish crystalline salt, used in photography, medicine, and as a glaze. It is shipped in glass bottles and boxes. It is an oxidizing material and oxygen carrier and supports combustion. It is classed with sodium nitrate. It should be stored in a dry place, prevented from coming in contact with organic or combustible materials.

**Zinc chlorate:** A white, crystalline substance used as an oxidizing agent. It is shipped in iron drums or glass bottles. The material is dangerous with organic material, sulphuric acid, etc., being an oxygen carrier. When in contact with organic material it explodes by slight friction, percussion or shock. It classes with potassium chlorate. It represents a severe life hazard under fire conditions. It should be safeguarded against mechanical injury in storage.

*(To be continued)*



**A Hot Fire Which Caused One Death**

The toll of this fire in a motion picture film laboratory was one dead, eight injured and $6,000,000 worth of film destroyed.

# PROMOTIONAL STUDY COURSE

**Herein is presented a series of definitions, questions and answers designed to aid fire department officers in preparing themselves for promotional examinations. In this department, which appears monthly, will be included questions typical of examinations held throughout the country.**

## Definitions

Bond: A written obligation or understanding, under seal, whereby an applicant for or holder of a permit engages and agrees to indemnify the city for any damage or injury resulting from his acts under such permit.

Certificate of approval: A written statement certifying that the type, class or kind of article or thing mentioned therein has been examined, tested and approved in conformity with the law, and that it is authorized to be manufactured, stored, transported, sold or used.

Certificate of Fitness: A written statement certifying that the person to whom it is issued has passed an examination as to his qualifications to perform the work mentioned therein, and that he has authority to perform such work during the term specified.

Certificate of registration: A written statement certifying that the person, association or corporation named therein has registered his or its name in conformity with the provisions of the law.

## Questions

**(To be answered in next issue)**

1. How would you fight the following kinds of fires and what precautions should be taken in each case:
   (a) Fire in a cold storage (ammonia) plant.
   (b) Fire in a four-story warehouse, the top floor heavily loaded with baled rags.
   (c) Fire in paint and varnish store.

## False and True Questions

**(Is each statement false or true? Answers in next issue.)**

2. T F—Incendiarism is the malicious setting of fires.
3. T F—When a modern oil tank is exposed to an external fire, a vent takes care of the generated gases within the tank, permitting them to escape to the atmosphere.
4. T F—Direct radiation must be considered when preventing exposure fires.
5. T F—Radiant energy circles around objects.
6. T F—Sawdust is of little use for the purpose of absorbing small amounts of water collecting on floors.
7. T F—Back-draughts may be prevented by the admission of cool air and application of water.
8. T F—The destination and final disposition of the water used at a fire should be carefully noted by fire officers.
9. T F—Ventilation for carbon monoxide gas must be provided at low levels.
10. T F—Faulty ventilation puts the firemen at a disadvantage in extinguishing operations.
11. T F—The success of handling fires in basements or sub-basements never depends upon quick ventilation.
12. T F—The efficiency of water mains decreases in proportion to their age.
13. T F—Pipe openings through floors are frequently the cause of increased water damage.
14. T F—The chief damage or danger to stocks of crockery and glassware at a fire is usually breakage.
15. T F—Oil being a poor conductor of heat, it will not carry the temperature down ahead of the burning surface of an oil tank except at a very slow rate.
16. T F—Back-draughts are the result of an explosive mixture of gases and air.
17. T F—Nature of contents and varying types of construction cause variation in the methods of ventilating.
18. T F—It is unnecessary to ventilate buildings if the fire can be reached by the use of breathing apparatus.
19. T F—Atmospheric conditions never retard effective ventilating of buildings.
20. T F—The oxygen required for a back-draught is sometimes provided by the firemen, when they enter the building or room.

## Completion Statements

21. The chief hazard present in fighting a fire in a large fur storage building is due to presence of .....
22. In operating fire trucks around the scene of a fire particular care should be taken to avoid .....
23. Gasoline has a ..... flash point.
24. Of "non-inflammable" and "incombustible" substances, the .... has the greater fire resisting qualities.

## Answers to Questions in Previous Issue

1. (a) If the fire occurs at night, there is a severe hazard to life; life hazard would be less if fire occurred daytime, except insofar as possible generation of poisonous gases is concerned. This hazard might be severe if the quantity of chemicals stored on the premises is large. Possibility of explosion is present, but to a minor degree. Hazard to property would include presence of highly inflammable liquids, such as alcohol, cleaning fluids, oils, etc., commonly found in retail drug establishments. As noted above, there is the possibility of explosion of vapors from chemicals which are exposed to fire.

(b) Problem does not state at what time fire occurs, nor in what part of the building it is burning upon the arrival of the company. It will therefore be assumed that the worst condition has developed, namely, that the fire is discovered around midnight, and that it has fully involved the basement of the building and is about to enter first floor stair hall.

First, if there is any question whatsoever as to the ability of the apparatus responding on the first alarm being able to cope with the fire, an additional alarm should be transmitted without delay.

Assuming that the first alarm brings out three engine companies and two truck companies, procedure during the first ten minutes would be as follows:

First engine company stretch in two lines to cover all vertical passages from the basement to upper floors such as stairwells, dumbwaiter, etc.

First truck company send two men to roof to open up over stairwell so that smoke and gases may be removed therefrom. Balance of members of first truck company on hand go through the building and get all tenants out. If there is any danger whatsoever of persons jumping, ladders should be raised to windows to get these people to the street safely, if they cannot be brought down by stairway.

By holding the fire to the basement, and ventilating the stairwell by opening windows and doors on ground floor and opening the roof up above stair shaft, the stairway will be kept available for use by tenants of the building in getting to the ground.

In laying in lines of hose they should be kept to one side of passageway so as not to obstruct egress of tenants.

Second engine company arriving would be ordered to stretch a line to rear of fire building and to operate into basement through rear window, if such is provided. If not, a cellar pipe should be put into play. This second company, when men are available, should stretch a second line to front of building also to operate into the basement from sidewalk entrance, if possible. If not possible, then another cellar pipe should be put into operation through the floor at the front of the basement.

These lines, however, would not be stretched in until all persons have reached the street, or are sure of reaching it.

For ventilating the basement, openings would be cut in floor front and rear at windows, if satisfactory ventilation cannot be provided by windows and doorways.

In the event that fire has reached the ground floor upon the arrival of the department, then the first two lines in would kill the fire on the ground floor, one of the lines going to the floor above while the other line holds the fire to the basement. In the meantime, persons would have to be removed from the various floors by ladders, unless the stairway was quickly made safe for them by killing fire therein and thoroughly ventilating.

2. False; 3. True; 4. True; 5. True; 6. True; 7. False; 8. False; 9. True; 10. False; 11. True; 12. True; 13. False (The word "fires" should be "lines" in the question); 14. False; 15. True; 16. False; 17. True; 18. False; 19. True.

20. . . . static. . . .
21. . . . incendiarism. . . .
22. . . . pressure. . . .
23. . . . velocity.
24. . . . motion.

# THE ROUND TABLE

## For Practical Discussion of Current Fire Department and Fire Management Problems

## SPRINKLER SYSTEM PROCEDURE BY DEPARTMENTS

FIRE Departments consist of groups of trained men, who are schooled in all the fire hazards that may be encountered, and in the conservation of property.

They know the tremendous waste that results from water damage, and that prompt and intelligent steps will reduce the dollar and cents loss. They are trained, when reporting to a place provided with a sprinkler system, to check the flow of water through the open heads, if the fire is under control. Before they leave the fire scene, the firemen know that the sprinkler system must be reset.

The practices followed by many departments regarding the servicing of sprinkling systems is set forth in the following discussion, which is a continuation of that in the previous issue.

In the box on the following page is the question that will be presented in the next issue. Should you have some comments that you would like to add to the next discussion, you are invited to write to the "Round Table Editor," FIRE ENGINEERING, 24 West 40th Street, New York, N. Y.

### Discussion of the Question

**Joseph N. Sullivan, Chief, Utica, N. Y.:** In addition to our salvage company, each truck company carries from four to eight covers. These are used to protect stock until the salvage company arrives and checks excessive water damage from sprinklers.

Salvage company is equipped with all types of heads. Replacements are made by the tenant, where the extra heads are used. The system is always put in service or a man is left until it is. Where breakage requiring repairs occurs, a 24-hour watch is insisted on until the system is in service again.

The salvage crew is able to reset valves, but do not, except where it is impossible to secure a sprinkler man's services.

**John A. Fisher, Chief, Duluth, Minn.:** When we receive an alarm over the A.D.T. system or fire alarm system, the first company to arrive at the fire, if it is a large building, goes to the engine room and refers to the chart to locate position of riser. He then proceeds to shut off the water. Merchandise is covered with tarpaulins, and scrapers used to remove the water.

The salvage company carries an extra supply of heads. All heads are replaced and the system put back in service before leaving.

The work of resetting valves is done by the Salvage Corps, which has been trained for this work. Tanks are filled direct from water mains.

**J. C. Moran, Chief, Hartford, Conn.:** When the department arrives and finds one or more heads open, the water is shut off from the system and the bleeder valves opened. Tarpaulins are spread if necessary to protect goods and squeegees and brooms used to get water out of the building.

We carry extra heads, but usually the men know where the heads are kept in the building. The system is always placed in service before leaving.

Dry valves are usually reset by the engineer, janitor, or one connected with the property. In this city where dry systems are used, there is always someone present to take care of their resetting.

**Chris. W. Noll, Chief, Poughkeepsie, N. Y.:** If we answer an alarm of fire in a sprinklered building, on arrival, where possible, we immediately cover with tarpaulins. If there is no danger of fire spreading, we shut off the sprinkler line to prevent further water damage. We do not carry extra sprinkler heads in the department but always insist that the owner carry them. We never leave the premises until the entire system is put back in service. Our men are not trained to reset dry valves.

**George Boughner, Chief, Grand Rapids, Mich.:** Wood plugs are used by the first company in to close open heads of sprinklers to check water damage.

### HERE IS THE PROBLEM

**What is done to prevent excessive water damage made by sprinklers.**

**Are extra heads carried?**

**Is the sprinkler system put back into service before leaving?**

**Are department men trained to reset dry valves and other accessories, and fill tanks?**

We carry extra sprinkler heads. We always put the system back in working condition before leaving. Department men are trained to reset dry valves, etc., but the work is further checked by the sprinkler company or A.D.T. We do not have tanks, except on very few buildings.

**Chas. A. Boynton, Fire Department, Syracuse, N. Y.:** To prevent excessive water damage, the water is swept out with brooms and squeegees, and the merchandise is covered with tarpaulins. We do not carry extra sprinkler heads. After the fire is out, we notify the owner of the property and tell him where to get a sprinkler mechanic. Some time before leaving the scene of fire, sprinklers are put in service. If not, they are checked and a report sent to the chief officer by the man detailed to check up on the sprinkler system.

**E. P. Welch, Chief, Columbus, Ohio:** To check water damage from sprinklers, members are required to know location of O.S.Y. valve, also drains in their respective district. All companies carry covers and equipment to relieve water where possible.

Each truck is equipped with a kit of extra heads and wrenches. Wherever possible the system is put back into service before the department leaves. If it be a night fire and no watchman or owner can be located, a member remains until arrangements can be made for fire safety.

No instructions are given members on operation of system, closing of main and drain. All dry systems are put back in service as wet, if the weather will permit. If not, the system is drained out of service. A member remains until the occupant is contacted and arrangements made to have the building protected.

**L. J. Urbanski, Chief, St. Joseph, Mo.:** To prevent excessive water damage made by sprinklers, tarpaulins are used to cover merchandise and the water is swept out at once.

Extra heads are carried. The sprinkler system is put back into service before leaving. Department men are trained to reset dry valves and other accessories and to fill tanks.

**J. G. Sarran, Chief, San Antonio, Tex.:** Sprinkler head tongs are carried on all apparatus to aid in preventing excessive water damage made by sprinkler. Extra heads are also carried. Systems are put back into service before leaving and are tested and sealed.

The men in our department are trained to reset dry valves and other accessories and to fill tanks.

**W. F. C. Partin, Chief, Meridian, Miss.:** Just as soon as possible, that is, as

soon as fire is located and we are sure there is no danger of it getting away (precautions are taken and we have a line ready in case of necessity or a small extinguisher in readiness, according to the extent of the fire) the sprinkler is shut off to prevent excessive water damage. No extra heads are carried by the Fire Department, but each establishment that has a sprinkler system is supposed to carry extra heads. The fused heads are replaced and water turned back on before the department leaves. In the event that there cannot be found an extra head, we always leave a man on watch until the system is again placed in operation. This work of replacing heads and turning on water is always done by the Fire Department. Firemen are not trained to reset dry valves, but as the occasion requires we fill tanks.

**Wm. R. Castimore, Chief, Buffalo, N. Y.:** All company officers are familiar with the sprinkler systems located in their respective districts and in case of fire the system is shut off just as soon as it is consistent to do so, to prevent excessive water damage.

A special soft wood wedge is carried on trucks and is often used to shut off individual heads where time would be lost reaching shut off valves. Water is then removed from upper floors as soon as possible.

Extra heads are carried on all chief officers' cars.

Systems are put in service whenever it is possible to do so before leaving the buildings. Members of the department are not trained to reset dry valves, although several of the firemen are qualified to do so by reasons of previous employment.

**John J. Kelly, Chief, Scranton, Pa.:** All officers have been instructed in the set-up and layout of all sprinkler jobs in the city that with the salvage such as tarpaulins, mops, brooms, squeegees, we manage to keep the water loss to a minimum.

We carry extra heads. We also see that the system is put into service before leaving.

All officers are trained to reset dry valves. In some buildings that have no night watchman or sprinkler supervisor, department officers carry keys that give them access to sprinkler valves, in case of an air leak during the night, which makes it necessary to reset the system.

**Daniel H. Shire, Chief, Mason City, Iowa:** This department has a salvage company, whose duty it is to protect against excessive water damage by sprinklers or any other cause, by making catch-alls, dikes and covering stock and furniture with salvage covers.

Eighteen assorted sprinkler heads, four sprinkler head wrenches, and one dozen sprinkler tongs are carried by this company.

Sprinkler systems are always placed back into service as soon as possible by this company and if the sprinkler system cannot be placed back into service due to any condition, a sprinkler watch is established and maintained until the system is again in service.

Once a week this company inspects all sprinkler systems and makes a flow test. It inspects systems to see that they are in working order, also to see that stock is not piled too high around sprinkler heads.

## HERE IS THE PROBLEM FOR THE NEXT ISSUE

**What is your opinion about competitive drills in Fire Departments?**

**Do you approve or disapprove of them? Why?**

**What advantages or disadvantages do they present over ordinary drills?**

**Walter Israel, Chief, Detroit, Mich.:** All commanding officers are required to know where shut-offs and drains for sprinkler systems are located in their districts. These systems are shut off as soon as possible. Salvage covers are spread and water swept off the floors to prevent excessive water damage.

Extra heads are carried by all ladder companies.

Sprinkler systems are put back into service before leaving. We have to use our own heads to put system back in service if the fire happens at night. We send someone back the next day to pick up our heads.

**W. J. Lutz, Chief, Wilmington, Del.:** After the proper inspection is made and the fire is located, the company officer first due in goes to where the main valve is located and shuts it off. Then a wooden plug wedge shape is used to stop the flow. After the system is drained off a new head is placed, and the system made ready for service. The company officers of their respective district know the location of the main shut off valve in the sprinklered buildings in their respective districts.

Extra heads are carried by truck companies together with the wooden wedges.

The entire system is put back into service before the chief officers and the company leave the fire ground.

All firemen in the Bureau of Fire are given sprinkler instruction at the training school. Company officers instruct the members of their companies at weekly meetings which are held on the long days on duty. It is the duty of the company officer when the building is inspected to see that the box containing the heads, wrenches, etc., are kept near the main valve or in the office of the building.

**C. M. Johnson, Chief, Knoxville, Tenn.:** The sprinkler system is shut off immediately upon the arrival of the department to prevent excessive water damage. Salvage work is started immediately. Extra heads are carried by the department. Sprinkler systems are placed back into service before leaving the scene of a fire.

Our men are not trained to reset dry valves, etc.

**W. P. Weeks, Chief, Battle Creek, Mich.:** We spread tarpaulins and drive in a tapered wooden plug to shut off the flow of water until system can be drained to prevent water damage made by sprinklers at a fire.

We carry extra sprinkler heads. Before leaving a fire involving a building where sprinklers are installed, we always see that the system is put back into service. Our department men are trained to reset dry valves and other accessories and fill tanks.

**W. S. Knight, Chief, Salt Lake City, Utah:** This department does not carry sprinkler system parts. If the plant to which we are called has extra heads we place them and see that the system is working before leaving the premises. The department does not have any men trained in sprinkler work. The Board of Fire Underwriters of the Pacific has a man for that purpose, and this department cooperates with him.

**N. J. Hinton, Chief, Ogden, Utah:** We carry on each piece of equipment several emergency shut-off devices to prevent excessive water damage from sprinklers. We do not carry extra heads, but our firemen know where they are kept at the various places where sprinkler systems are installed.

We always put the system back into service before leaving a building.

Our men are trained to reset dry valves and other accessories. Our tanks are automatically filled.

**Reuben E. Estes, Chief, Lewiston, Me.:** To prevent excessive water damage made by sprinklers we shut the system off as soon as possible provided there is no fire and use the salvage covers.

We carry extra heads. If it is possible, the sprinkler system is put back into service before leaving. We have very few dry systems. There are no tanks as all systems connect to water mains. Our men have been trained to reset a dry system but as yet have not been called on to do so. Should the occasion arise, we would try to reset the system but would not leave it unless it was adjusted to a proper working order.

**M. J. Brun, Chief, Fort Smith, Ark.:** In order to prevent water damage made by sprinklers, the water is removed from the floors and stock or merchandise stacked on racks.

**A variety of heads are** carried to meet all temperature requirements. We put the sprinkler system back into service before leaving. Our men are trained to reset dry valves, etc.

**A. Chamberlain, Chief, Hillside, N. J.:** In Hillside all buildings that have sprinkler systems are connected with A.D.T. system, and through them the Fire Department is notified.

The owners of the buildings where systems are installed are requested to keep extra heads on and where the members of the Fire Department can get them.

Whenever it is possible, we put the sprinkler system back into service. We have had no experience with dry valves but have worked pumps and filled tanks.

**L. P. Kerner, Jr., Chief, Rio Vista, Calif.:** Sprinkler lines are shut down as soon as possible and water drained out of building to prevent excessive water damage from sprinklers. We do not carry any extra heads. Sprinkler system is put back in service as

soon as possible. Officers are trained to take care of sprinkler systems.

**James Welch, Chief, Eau Claire, Wis.:** To prevent excessive water damage from sprinklers, we shut them off as soon as possible, shift stock, cover up, and mop up. No heads are carried. We carry plugs for emergency. The supply of heads is generally at the risk. We always place the system back into service.

We reset valves. Several department men understand the systems. We inspect the systems regularly.

**Fred Day, Chief, Vancouver, Wash.:** To prevent excessive water damage the section of sprinkler equipment is shut down as soon as possible and water swept out with brooms and mops. We do not carry extra heads.

The management of the risk is notified when the fire is out and we have had no trouble in getting equipment back in service before leaving.

**James Black, Chief, Grand Forks, N. D.:** We see that the water is shut off as soon as posible and heads replaced to prevent excessive water damage.

Extra heads are carried on apparatus. Sprinkler systems are always left in shape before leaving. Men in the department are trained to set valves and to see that tanks are filled, and all valves opened so that the system is in working order.

**R. E. Williams, Clerk, Fire Dept., Lynchburg, Va.:** Sprinklers are turned and set back in place to prevent excessive water damage made by sprinklers. The sprinkler system is put back into service before leaving. The men are trained to reset dry valves and other accessories, and fill tanks.

**John Ely, Chief, Champaign, Ill.:** We always carry a sprinkler head shut-off to prevent water damage made by sprinklers. All buildings have extra shut-off heads on a long stick. We also carry one on apparatus. The sprinkler system is put back into service before we leave. Our men are trained to reset dry valves and other accessories and fill tanks.

**W. A. Foster, Chief, Boise, Idaho:** The first thing that we do is to order all goods covered with tarpaulins until we can replace new heads to prevent excess water damage.

Extra heads are carried on all pieces of apparatus. The sprinkler system is placed back in service before leaving. We are prepared to take care of any system.

**L. E. Reif, Chief, New Haven, Conn.:** If only one or two heads let go, we put in a fusible emergency head. If more than this let go, we shut down system until heads are replaced. We carry extra heads. The system is put back into service before leaving.

Our men do not reset dry valves and other accessories. We notify the insurance company immediately, and it is taken care of by the New England Insurance Exchange.

**L. E. Gramley, Chief, Aurora, Ill.:** To prevent excessive water damage made by sprinklers, we spread salvage covers, and use temporary shut-offs.

The sprinkler system is put back into service before we leave.

**Irby Klinck, Chief, Memphis, Tenn.:** To prevent excessive water damage made by sprinklers we spread covers; when necessary catchalls, troughs, chutes and motor water pumps are employed. We also use two types of sprinkler stops, one with the pole, the other by hand. These stops are inserted through the sprinkler guard and halt the flow of water. When certain that the fire is out, a man is dispatched to cut off the sprinkler, open the drain valve and replace the heads. Extra heads are carried.

The wet system is put back into service by the department. But in the case of the dry system, the sprinkler system service man is notified and pending the resetting of the valve, a fireman is left at the scene. When there is a large storage, and the risk is great and the weather will permit, the dry system is turned on wet. A fireman is left in charge until the system is put back into service.

Department officers and men are trained and are familiar with the various types of systems and accessories and where these systems are not serviced will, in case of emergency, place them back in service.

**H. J. Callahan, Chief, Fort Dodge, Iowa:** Covers are spread, squeeges are used, the valve is closed as soon as fire is out, and the drain is opened to check the water damage in case of a sprinklered risk. Sprinkler tongs are carried and used immediately after fire is found to be out.

No extra heads are carried but inspectors see that there are extra heads and a wrench at every sprinklered property.

One of our men is left at the property until system is back in service. Men are now being trained to reset dry systems.

## New Hampshire Firemen Meet

The thirty-eighth annual convention of the New Hampshire State Firemen's Association was held at Newport, N. H., September 7 and 8, with an attendance of more than three hundred delegates and firemen. The session was opened with a meeting of the Executive Committee on Monday afternoon, September 7. At 7 p. m. there was a round table session, at which the special features consisted of an illustrated lecture on arson given by George O. Mansfield, Chief of Fire Inspection, Massachusetts State Police. Inspector Mansfield, author of a series of articles on arson investigation appearing in FIRE ENGINEERING, reviewed many of the cases which have appeared in the various issues, and outlined briefly others which are to appear in subsequent issues. The lecture was followed by a question and answer period.

The Annual Ball was held at the Town Hall later in the evening with a very large attendance. This feature, which usually concludes the program, proved most enjoyable at a "night before" feature.

The business session occurred on Tuesday morning at the Town Hall, with Arthur W. Coyle, Berlin, the President, presiding. The session was opened with prayer by Rev. Charles W. Turner, Pastor of the North Baptist Church of Newport. The address of welcome was given by Selectman Morris W. Cummings. President Coyle responded.

The principal business was the election of officers and the state's veteran Chief, George E. Lewis, Newport, N. H., was chosen President. Other officers elected were R. F. Girouard, Nashua, First Vice-President; Paul E. Symonds, Keene, Second Vice-President; Oscar P. Stone, Manchester, re-elected Secretary; Chief Albert C. Melendy, Nashua, re-elected Treasurer; Lieut. P. J. Kennedy, Exeter, Sergeant-at-arms; Chief W. T. Happny, Concord, John D. Grady, Dover, Deputy A. J. Malloy, Nashua, Chief C. D. Fay, Hinsdale, and Chief W. F. Woods of Portsmouth were elected members of the Executive Committee. A parade of delegates and firemen preceded a luncheon. New and old apparatus was shown in the parade, including a pumping engine which was manufactured in 1800.

There were special features for the ladies' entertainment during the two days.

**Fire Alarm Men Find Much of Interest at Convention in New York City**

The National Municipal Signal Association held its convention in New York City last month and had a well rounded out program. Shown in the photograph from left to right are George P. Allen, Jacksonville, Fla.; A. W. Chase, Niagara Falls, N. Y.; J. G. Barry, New York Fire Department; C. J. Harris, Cleveland, Ohio; H. H. Berry, Springfield, Mass.; E. L. Layne, Denver, Col.; W. H. Greenlaw, Beverly, Mass.; Charles F. Maulen and W. F. Thompson, Charleston, W. Va.

# Questions and Answers

**NOTE—Readers are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified**

## Branched Lines

*To the Editor:*

Will you kindly answer the following questions?

An engine at 150 pounds pressure is pumping through 500 feet of 2½-inch hose into a "Y" with two lines of 1½-inch hose out of it, each equipped with a nozzle of ½-inch diameter.

What is the nozzle pressure?

What is the discharge?

Also, what are the constants for ½-inch and ¾-inch tips?

W. J. C.

*Answer*: The procedure in solving the problems is as follows:

You have not stated the length of the branch lines, so that it will be assumed that they are both the same length and that they are 100 feet long.

The first step is to change the two parallel 1½-inch lines of hose into a single line of 2½-inch hose.

The factor for changing a single 1½-inch line to 2½ is 0.074.

100 ÷ .074 = 1,351 feet of 2½-inch hose.

We thus have two parallel 2½-inch lines, each 1,351 feet in length.

To change these into a single line we divide by the factor 3.6.

1,351 ÷ 3.6 = 375.3 feet of 2½-inch hose, single line.

Then we may consider the layout as 500 feet of 2½-inch hose connected to 375.3 feet of 2½-inch hose, or a total length of 875.3 feet of 2½-inch hose.

The next step is to combine the two ½-inch tips, or nozzles, into a single nozzle.

This is done by squaring the diameter of each tip, adding the squares so found and then abstracting the square root, or .5 x 5. = .25.

.5 x .5 = .25; added together gives .50.

The square root of .50 is .707, which is the diameter of a nozzle equal in area to the two ½-inch tips.

The value of K for a nozzle of this size is found by multiplying .707 by itself three times and dividing by 10, or

= .707 x .707 x .707 x .707 ÷ 10.

= .025.

L, the number of 50-foot lengths of hose in the line, = 875.3 ÷ 50 or 17.5 approximately.

N.P. = E.P. ÷ (1.1 + K L).

= 150 ÷ (1.1 + .025 x 17.5).

= 150 ÷ (1.1 + .4375).

= 97.5 pounds approximately.

Discharge from the combined nozzle (which is equivalent to the discharge from the two ½-inch nozzles) = 30 x d x $\sqrt{p}$

= 30 x .707 x .707 x $\sqrt{97.5}$

= 15 x 9.9 = 148.5 g.p.m.

The discharge through either of the two of the ½-inch nozzles would be just one-half of this amount.

The value of K for ½-inch nozzle on 2½-inch hose equals .5 x .5 x .5 x .5 ÷ 10.

= .00625.

K for ¾-inch tip on 2½-inch hose.

= .75 x .75 x .75 x .75 ÷ 10.

= .0316.

K for ½-inch tip on 1½-inch hose = .00625 ÷ .074, or .084.

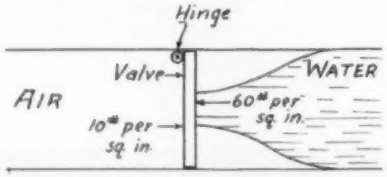
K for ¾-inch tip on 1½-inch = .0316 ÷ .074 = 0.427.

## Principle of Dry Valve

*To the Editor:*

What is meant by "One pound of air will hold back six pounds of water?" F. J. F.

*Answer*: Herewith is a sketch which illustrates what is meant by the statement "One pound of air will hold back six pounds of water." It is not a picture of a dry valve, but indicates the principle of the dry valve. It shows a hinged valve with air pressure on one side and water pressure on the other. The air pressure operates over an area six times as great as the area under




water pressure. Suppose air pressure is ten pounds per square inch and the water pressure is 60 pounds per square inch. As the air pressure side of the valve is six times greater in area than the water pressure side, the total pressure on the air pressure side will be exactly the same as the total pressure on the water pressure side and the valve will not move. In other words, where the area pressed upon by the air is six times the area pressed upon by the water, one pound of air will hold back six pounds of water.

If the air pressure is reduced, due to leakage in the pipe, the pressure over the entire area is correspondingly reduced and the water pressure will then overbalance the air pressure and force the valve open permitting the water to enter the air space.

## Magnesium Fires

*To the Editor:*

In our district we have an airplane factory and in the manufacture of airplanes considerable magnesium in thin sheets is used. In the June issue of FIRE ENGINEERING there is an item on magnesium which says magnesium in powder form will liberate hydrogen in contact with water and create an explosion hazard. What I should like to know is the ignition temperature; what precautions should be taken, and what method of extinguishment should be used in the event of fire in the warehouse where the magnesium is stored? C. W. H.

*Answer*: Magnesium tends to ignite when it has passed its melting point, or at about 1,200° F.

While burning magnesium does liberate hydrogen, coming in contact with water, in operating on a fire involving quantities of sheet magnesium, a plentiful supply of water should be used. This will keep the temperature down and stop combustion until such time as the material can be overhauled.

As to precautions, sheet magnesium should be stored in a detached, dry building, where it will not be exposed to moisture.

## First Aid Kits, Chemical Tanks, Etc.

*To the Editor:*

What particular attention would you give first aid kits and gas masks? Why?

What are the advantages and what are the disadvantages of booster pumps over chemical tanks (40 gal. type) in Fire Departments?

J. J. H.

*Answer*: With regard to the question as to what attention you should give to first aid kits, the following may be said:

First aid kits should be inspected regularly to make sure that none of the equipment therein is depleted; bandages, drugs, etc., which have been used, should be replaced. Furthermore, any medicines which may deteriorate from standing should be renewed.

With reference to gas masks, the chief concern here is to make sure that they have not been used so as to exhaust the chemicals in the cannister. If the smoke mask has been employed, cannisters should be replaced with fresh ones. Inspect periodically to make sure that all connections are tight, and that rubber has not become damaged through injury or aging.

Booster pumps (with booster tanks)

have the advantage over chemical tanks in that it is possible to keep them in continuous operation by filling the port in the tank while the pumper is operating. Chemicals can be added to the water in the booster tank to prevent it from freezing, whereas with chemical tanks there is no practical method at the present time for frost-proofing the soda and acid type. Furthermore with chemical tanks, once they are discharged, they must be recharged before again using. The pressure from the booster tank can be fluctuated as desired whereas that in a chemical tank starts at the maximum pressure and gradually drops down until the tank is empty.

Insofar as extinguishing effect is concerned, there is practically no difference between a stream from a chemical tank and from a booster tank except in closely confined spaces, where the chemical stream might have a small advantage in extinguishing a fire.

## L. J. Conley, Chief of Pittsburgh

Former Deputy Fire Chief Louis J. Conley was appointed Chief of the Pittsburgh Fire Department to succeed Chief Richard Lee Smith, who retired on pen-

Chief Louis J. Conley

sion on July 16, 1936, after being in the Fire Service for over thirty-five years.

Chief Conley entered the Fire Department as a Substitute Hoseman, July 10, 1916, with the installation of the two-platoon system, and was appointed a regular hoseman on October 10, 1916. On February 7, 1924, he was promoted to Senior Lieutenant.

He was promoted to the position of Training School Instructor at the Firemen's Training School on November 4, 1926, where he remained until he was promoted to the position of Deputy Chief on January 7, 1930.

On November 12, 1935, the City Council abolished the positions of the two Deputy Chiefs in the department.

In order that Chief Conley could complete his required twenty years service record and not be deprived of his pension, Chief Conley was re-appointed Captain and assigned to Engine Company No. 3, located in the high value down town business district, the largest fire station in the city. Where he remained until July 15, 1936, when he retired on pension. His new appointment was effective on September 4.

Chief Conley is 41 years old. During the World War he served overseas with the United States Marine Corps, ranking as a non-commissioned officer. At the end of the war, he returned to the fire service after an absence of eighteen months.

## Massachusetts Firemen Convene

Deputy Chief James J. King, Lawrence, Mass., was re-elected President of the Massachusetts State Firemen's Association at the 57th annual convention which was held in Springfield on September 8 to 10.

The other officers chosen for the ensuing year were Captain F. T. J. McNamara, Swampscott, First Vice-President; John E. Reinhalter, Quincy, Second Vice-President; W. A. Adams, of Worcester, Sergeant-At-Arms; Raymond W. Griffin, Springfield; James A. S. Drinkwater, Cambridge; and Captain John H. Day, Lynn, Directors, and Edward J. Coveney, Boston, Commissioner of the $18,000 Firemen's Relief Fund.

Speakers at the opening session were Mayor Henry Martens, Springfield; City Councilor Henry D. Miller, Chief Herbert C. Root, Springfield Fire Department, and Chief William C. Mahoney, Peabody.

On the second day the speakers were Senator Francis McKeown, Representative William Kirkpatrick, State Fire Marshal Stephen C. Garrity, John J. Murray, Treasurer of Hampden County; Representative Raymond F. O'Connor, Springfield; Representative Joseph L. Harnish, Chicopee; State Treasurer Charles F. Hurley, and Thomas F. Galvin, Commissioner of Public Safety, Lawrence.

M. Joseph Manning, Milton, Treasurer of the association, read the names of fifty-one firemen who died during the past year. The annual memorial address was delivered by Rev. Fr. John J. Powers, of St. Michael's Cathedral, Springfield.

At the closing session reports were received, and an address was given by Kenneth H. Damren, County Personnel Administrator, who explained the various provisions and ramifications of the new Massachusetts contributory pension system.

Lieutenant Michael J. McGonagle, Boston, reported as Chairman of the Legislative Committee and told of the measures enacted which had to do with firemen or fire departments.

T. P. Byrne, Chicopee; Coleman Curran, Boston, and Captain John H. Day. Lynn, were other speakers at the final meeting. A banquet in the Springfield Auditorium was the closing feature of the convention. HARRY BELKNAP.

## False Alarms, a Cure for Insomnia

The insomniac tragedy of a former telegrapher, lulled nightly to sleep from midnight to dawn by the chattering of keys, bells and automatic printer machines until he lost his job, and then could sleep no more, was disclosed by Fire Department officials at Bridgeport, Conn.

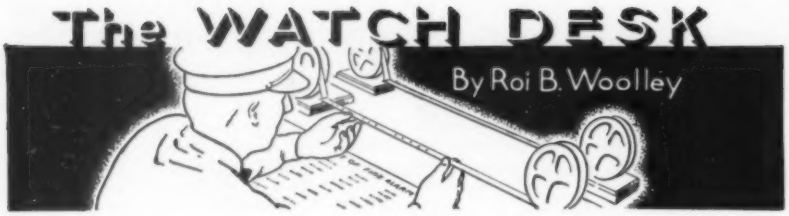
To soothe his too-relaxed nerves and get the rest he needed, he relied on the Fire Department to make a racket in the middle of the night by sending in a series of false alarms. He was finally apprehended early one morning, a few seconds after he had pulled a box.

A special policeman who was dozing over a cup of coffee in a nearby diner, said he saw the man walking away from the box. When taken to a police precinct he admitted pulling four other alarms, all because he couldn't sleep. He was sentenced to jail where he might get the necessary rest.

THOMAS F. MAGNER.

**Value of Fire Break on Mountain Ridge Proven During Forest Fire**

The famous Mt. Wilson Observatory, Mt. Wilson, Cal., was endangered when fire roared through the dry brush and big timber in its vicinity. Several hundred men working on nearby highways were rushed to fight the fire. Note how the fire break along the ridge has stopped the progress of the fire.




Our inquiring reporter overhauls the firemanic news of the day.

**Sues State For Lack of Fire Protection**

Contending that state is responsible for adequate fire protection in communities, John A. Rudd filed petition in Court of Claims, Albany (N.Y.), in August, seeking $100,000 for the loss of a warehouse in a Schenectady fire last June. "It is the duty of the State of New York," contended Rudd, "to furnish adequate and suitable fire protection. The state, through its authorized agents, the city of Schenectady, failed, omitted and neglected to furnish a sufficient and adequate supply of water, hose and pressure."

**Oh Fireman Spare That Tree!**

Little Charles Brenner, aged 5, Chicago (Ill.), was afraid of high places so parents taught him to climb 40-foot tree near their home. He went up, got so proud he wouldn't descend. Parents called Oak Park F.D. who brought him down. This was Friday. On Sunday Charles got "out on a limb" and again F.D. rescued him—chopping off limb. Next day Charles reached topmost point same tree and family phoned frantically for F.D. which came, removed precocious youth — and applied axes to tree, demolishing it, "just in case . . ."

**Costly "Thrills"**

Five volunteer firemen of Upper Darby (Pa.) who started half-dozen fires for "thrill of putting them out" were sentenced to long prison terms. The five confessed guilt, laying blame to being "dazed with gin." Terms ranged from one to ten years, with additional fines of from $100 to $500.

* *

Five volunteer firemen of Hawthorne (N. J.) were suspended, result of affidavits charging them with setting fire to unoccupied shack. Prosecutor A. C. Dunn is considering the case. Among four was an active assistant chief and former assistant chief.

* *

A youth, Burrell Williams, of Saginaw (Mich.), aged 20, was sentenced to life imprisonment after he had admitted setting more than score of fires, most of them in barns. He was not a fireman.

**Home Burns as F. D. Looks On**

Village of East Meadow (L. I. N. Y.) will have new fire equipment soon or some of residents will move, according to plan formed by irate committee to protest destruction of bungalow that might have been saved had not East Meadow F.D.'s hose lines burst. Accounts say that a small fire that started in closet of home of Carl Falco spread and destroyed house while firemen awaited new hose lines to arrive from Merrick and Uniondale. Neighbors started taxpayers' petition demanding investigation of F.D. However, Chief Edward Moskowski denied fire officials were at fault. "Time and time again" he said, "we have asked for money to buy new equipment. The appropriations have been defeated at taxpayers' meetings, the last time by two votes. Now perhaps the taxpayers will give us new hose when we ask for it."

**Our New England Correspondent Reports:**

Out in Seattle (Wash.) crowd of 200 gathered outside home of T. K. Kirkpatrick to watch spectacular fire and curse delay of firemen. After 30 minutes excited wait, while roof fell in and house was practically destroyed, it dawned on crowd that nobody had sent in alarm. Everybody rushed to do it—too late.

* *

Mill officials in Vineyard Haven (Mass.), attempting to rid mill of rats, used plenty of chemicals, which exploded sending burning rodents over neighborhood, causing $15,000 fire loss, giving firemen busy time.

* *

Firemen, called to Graves Island, few hundred feet from estate of C. P. Dennett, Boston banker, near Manchester-by-the-Sea (Mass.), found brisk brush fire. It was low tide and no water between island and beach. So they stretched 1,500 ft. of line from hydrant on mainland and walked out to blaze. Two hours later, after subduing fire that swept over 7 acres, they found themselves completely surrounded by water. Nothing loath, they shouldered hose, waded, swam and floundered back to land. Tide had fooled 'em.

* *

As crew of Eng. 46, Boston F.D., were speeding to fire, in Dorchester, they were startled to find their own engine afire. After quick stop and use of extinguishers, they proceeded about their business and snuffed out rubbish fire.

* *

**News Flashes**

In Madras (India) 20 women and children perished and many injured when fire destroyed motion picture house. Wife of state official credited with saving many. She quickly tore off her "sari," tied one end to balcony rail and about 40 in balcony slid down the dress to safety. . . . Seventeen persons were killed in fire in two dormitories in Yakutsk, Siberia. . . . Trapped by fire on sixth story of Norton Hotel, Norton (Va.), man and his wife hung by fingers to window ledges until firemen reached them from 5th floor and pulled them to safety. . . . Mrs. Anna Keating, aged 26, fleeing a fire in her apartment house, New York City, tripped on her night dress off fire escape, fell 4 floors to death. . . . A Battalion Chief of Paterson (N. J.) F.D. was arrested, charged with driving his car while intoxicated, after it had struck and injured local policeman. . . . 300 members of Southern N. Y. Volunteer Firemen's Association at annual convention voted to have themselves unmistakably represented at forthcoming World's Fair, New York City. They want an exhibition and apparatus that will record creditable history of volunteer fireman. . . . When Police Chief Robert Jones, Dallas (Tex.), wanted a fitting car for use of President Roosevelt, and couldn't get it, he took flaming red chariot of the Fire Chief and (to F.D.'s disgust) painted it black. After the Presidential ceremonies, he re-painted it red. If President is as keen about fire as said, he probably would rather have ridden in red chariot. . . . Wm. Mulligan, aged 11, North Arlington (N. J.), saw his Uncle, Bert Delaney in driver's seat of local Vol. F.D.'s pumper speeding past home. With his step-sisters he chased several blocks to fall dead. Firemen were only out for a drill. . . . When a woman reported that children were throwing stones at a barrel in a vacant lot of Troy (N. Y.), police investigated and found 108 sticks of dynamite in it. . . . Lieutenant J. W. Bishop, veteran barnstorming pilot, an aviation instructor of Nassau County (N. Y.) Police, with a student flier and mechanic, were killed when plane they were flying crashed. They took off to see a fire, smoke of which they noted in distance. Plane crashed while they were watching firemen at work. . . . A navy munitions depot on Island of Brac, Jugoslavia, exploded killing 20 and injuring many. . . . Professor Robert Strickler, Tennessee University, is absent-minded. Thrust his glowing pipe in pocket, hung coat in closet. Resulting fire destroyed considerable clothing. . . . A fire which put itself out occurred in CCC camp near Springfield (Col.). Wooden water tower caught fire, burned down, causing tank and water to fall, thus dousing blaze.

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**Note to contributors:** If you do not read your news contribution in the next issue of FIRE ENGINEERING don't despair —if it's suitable it will ultimately find its way into print.

**Editor, Watch Desk.**

**WHAT DO YOU KNOW?**

**The Editor of "The Watch Desk" welcomes contributions from readers of FIRE ENGINEERING that briefly give facts about interesting, odd things that have to do with fires, fire-fighting, etc. Address "Editor, Watch Desk."**

# REMARKABLE FIRE STOP MADE BY BROOKLINE FIREMEN AT SCHOOL BLAZE

## Assisted by Boston and Newton, Mass., Fire Departments Chief Allen Succeeds in Holding Threatening Fire in Old High School Building to Attic and Upper Floor

By Harry Belknap

ON the afternoon of September 25 a fire broke out in the attic of the large 3-story brick building of the Brookline, Mass., High School and the flames had obtained such headway before the sounding of the first alarm that by the time the apparatus reached the scene the entire blind attic beneath the peaked roof, comprising 21,000 square feet of area without a single fire-stop, was involved.

Chief Selden R. Allen at once ordered a second alarm sounded and this was soon followed by a third alarm. Apparatus from Newton and Boston aided the Brookline department in fighting the fire, which was brought under control after a hard battle, in which 14 firemen received injuries requiring hospital treatment.

The damage, estimated by Chief Allen at $150,000, was confined to the roof and top floor. In two places the flames worked down to the second floor by way of soil pipe and conduit openings, but were promptly checked.

### Injuries to Firemen and Damage to Equipment

Sixteen lines of two-and-a-half-inch hose were taken inside the building and over stairways to the upper floor. Most of the injuries to firemen were caused by falling slate and plaster. Several ladders were damaged beyond repair by a falling ceiling in the assembly hall and a number of hose lines had to be abandoned. Chief Allen had a narrow escape from serious injury from a falling section of the roof while directing his men inside the building. The saving of the lower floors is considered a remarkable piece of fire fighting by fire experts and insurance men who have inspected the premises.

The high school was built in 1894 of second class brick construction, with a hard pine roof covered with slate and surmounted in the center by a high brick tower which acted as a flue for the flames. The distance from the ground to the weather vane on top of the tower was 185 feet; from the ground to the eaves at the roof of the tower 165 feet, and from the ground to the gutter of the main roof was 60 feet.

### Caused by Defective Incinerator

The fire originated from a defective incinerator flue in an old brick chimney passing through the blind attic. This attic was from 14 feet to 26 feet in height. Test holes made from beneath by firemen showed that the entire attic was involved by the fire when the first lines of hose were laid into the building.

School had been dismissed for the day, but about 100 pupils and a few teachers were still present when the fire was discovered. They made their way to the street without difficulty.

### Alarms and Response

The first alarm was received from Box 31, corner of Sumner Road and Tappan Street, at 2:32 p.m. Engine Companies Nos. 1, 2 and 7; Ladder Companies Nos. 1 and 2, Chief Allen, and Deputy Chief John D. McDonald responded.

On the second alarm, recorded at 2:37, Engine Companies Nos. 4 and 5, Ladder Company No. 3, and Deputy Chief Francis J. Hayes responded. The third alarm was sounded at 2:47 and brought Engine Companies Nos. 3 and 6 to the scene. Under the mutual aid plan the sounding of the multiple alarms brought Newton apparatus and Chief Allen summoned aid from Boston.

Chief Clarence R. Randlett, of Newton, responded with Engine Companies Nos. 1 and 3, of the Newton Fire Department. The former "covered in" at Brookline Fire Headquarters and Engine Company No. 3 worked at the fire. Boston sent Engine Companies Nos. 37 and 28 and Ladder Company No. 10.

### Equipment and Apparatus in Service

Several Baker portable deluge sets were operated from siamesed lines and two Morse wagon guns were used by the Boston companies.

The water supply was ample and there were plenty of post type hydrants available with an average pressure of 80 pounds. The amount of hose laid was 12,000 feet and the total amount of water used was 1,900,000 gallons. Two American-LaFrance Aerial Ladders were used, also four 55 ft. ladders and four 35 ft. ladders inside the building. The motor pumping engines were all American-LaFrance, 750 gallon size. The total number of firemen, officers and privates, at the scene was 160. About 1,600 feet of hose was lost. The "all out" signal was sounded at 4:26 a.m. on September 26.

The Brookline Fire Department lighting truck, equipped with two Kohler units, rendered effective service when darkness fell and a portable Homelite outfit was utilized to floodlight the rear of the school. Supt. Walter Bushway, of the Brookline Water Department, was at the scene and there was a large detail of police to keep back the crowd.

### Local Paper Praises Fire Department

*The Chronicle*, a Brookline weekly, pays a glowing tribute to Chief Allen and his Fire Department editorially in its issue of October 1, in part as follows:

"Another of Brookline's older school buildings fell prey to demon fire last Friday and the lesson to be learned from this unfortunate happening centers around the officers and men of our gallant Fire Department. Few departments are ever called upon to show their courage and fortitude and give of their best as was occasioned by this blaze. When the fire was discovered it had already doomed the attic of the old Shailer Hall and, covered as it was with a slate roof, Chief Allen at once saw that to save any of the structure it meant fighting the blaze from the inside of the building. Leading his men into the very heart of the battle sixteen lines of hose were operated from the staircases and the upper hallway. Despite the falling ceilings of wire lath and hard plaster and the crashing of timbers as the fire overhead ate them away from the side walls, these men gallantly struggled on

Fig. 1—General View of Fire-Fighting Operations at Brookline High School Fire Taken from the Air

Fig. 2—Fighting the Attic Fire in the Brookline High School. This Fire was Confined to the Attic and Third Floor of the Building.

and finally conquered the battle, but not until fourteen of their number had been taken to the hospital for treatment.

Brookline people should feel exceedingly proud of this demonstration of fire fighting. We have always claimed we had a great department and once again the men have proven it. No words of ours can express our appreciation of their gallantry. It was a great battle, well fought and cleverly conquered. . . ."

A correspondent of *The Chronicle* in the same issue writes:

"As one who has been a spectator at scores of large fires in the past few years, I must say that it was with a great feeling of pride that I watched the Brookline Fire Department battle the big blaze in the High School yesterday, as this was one of the hardest battles that I have ever witnessed and it was in my own home town. Chief Allen and his men showed that they exceeded the fondest hopes of the people of Brookline, who have prided themselves for many years for having the finest fire department of a town of this size in the whole country.

"Much credit should be given the crews of Engine 37 of Roxbury and Engine 28 and Ladder 10 of Jamaica Plain, who fought side by side with the Brookline Fire Department. This no doubt proved to the people of Brookline that when a great emergency arises its big brother, which practically surrounds it, can always be found ready to come to its assistance, as Brookline has come to the assistance of Boston several times in the past.

"BENJ. M. ELLIS."

## Department Commended in General Order

Under date of September 30 the following general order was issued by Fire Commissioner George W. Goode, of Brookline:

"I desire to express the appreciation of myself and Chief of Department Selden R. Allen for the heroic service rendered by the members of this department at the fire in the Brookline High School on September 25.

"The fact that this building suffered only the loss of its roof, in the face of a terrific fire, which had been in possession several hours before an alarm was received, of the blind attic throughout the entire area of the building, will be a lasting monument to the courage, skill and equipment of this department."

A number of salvage covers were spread to protect book cases on the lower floors from smoke and water damage. Adjoining brick school buildings, one of which was connected to the burned structure, were saved from loss.

HARRY BELKNAP.

## Waterbury Has 4-Alarm Fire

The huge lumber plant of J. E. Smith Company, Inc., and a warehouse owned by the W. L. Hall Company, on Commercial Street, Waterbury, Conn., were destroyed by fire on August 22, with damage estimated by Chief Thomas Lynch at $150,000. It was the first four-alarm fire in the city's history and brought out every piece of fire-fighting apparatus.

The fire, which was caused by a bolt of lightning during a severe thunderstorm, left only the blackened walls of the Hall plant, after firemen fought the fire for twenty-four hours. Several firemen were injured when a wall of the Hall plant toppled.

The first alarm was received at Headquarters at 8:26 p. m. Acting Deputy Chief S. J. Bloomfield, who was in charge in the absence of Chief Thomas Lynch, responded on the first alarm and immediately ordered a second alarm. Due to the heavy clouds of smoke and increasing blaze, as the first swept from the lumber sheds into the warehouse, a third and fourth alarm were sounded.

Most of the loss in the lumber shed was in expensive lumber used for floorings, bungalow siding, insulating boards and other costly materials. The fire occured a short time after several members of the Waterbury department had

Fig. 3—Attacking the Brookline High School Fire From All Sides. Men at Extreme Right Have Checked the Fire at the End of the Wing Shown in Fig. 2.

returned from the Connecticut State Firemen's Association convention at Greenwich and many ruined their civilian clothes while fighting the fire. Deputy Chief Thomas Cavanaugh and Acting Deputy Martin Campion arrived shortly after the second alarm to assist in combating the fire, which was one of the largest in Waterbury in many years.

THOMAS F. MAGNER.

## WHAT'S BURNING

THE following list includes fires of $50,000 loss and over in the United States and Canada, for the month of September, 1936. These figures, compiled from the telegraphic reports, are based on estimates made at the time, and are subject to later investigations and consequent revision. Taken as a whole, however, they are an approximately correct view of the losses incurred. The figures represent loss in thousands of dollars.

| Month Ending September 30 | Loss in Thousands of Dollars |
|---|---|
| **Cynthiana, Ky.**—Wigglesworth tobacco warehouse | $50 |
| **Osawatomie, Kan.**—Missouri-Pacific shops damaged | 180 |
| **Brooklyn, N. Y.**—Central Presbyterian Church destroyed | 300 |
| **Harper, Kan.**—Mill of Imperial Flour Co., destroyed | 125 |
| **Nevada, Mo.**—Yards of Logan Moore Lumber Co., adj. property | 55 |
| **Jacksonville, Fla.**—Whse. of Atlantic Coast Line, adj. stores | 80 |
| **Ashley Falls, Mass.**—Six barns on Antonio Malnati dairy farm | 50 |
| **Plains, Mont.**—Business property | 50 |
| **Jewell Ridge, Va.**—Hospital and adj. property damaged | 80 |
| **Rochester, N. H.**—Business and residential property | 80 |
| **Sudbury, Ont.**—Stinson plant of Ontario—Hydro-Electric Power Comm., 20 mi. east, destroyed | 250 |
| **Minneapolis, Minn.**—Property of Firestone Service Stores, Inc. | 50 |
| **Spindale, N. C.**—Champion Lumber Co., owned by M. G. Johnson | 100 |
| **Chicago, Ill.**—Plant of Alghini Macaroni Mfg. Co. | 50 |
| **Childress, Texas**—Palace Theatre building damaged | 50 |
| **Charleston, S. C.**—Clyde-Mallory freight terminal destroyed | 125 |
| **Mt. Lowe, Cal.**—Tavern and cottages owned by Pacific Elec. R. R. | 170 |
| **Cherrydale, Va.**—Washington Golf and Country Clubhouse destroyed | 50 |
| **North Rim, Ariz.**—Workers' dormitory and adj. property | 50 |
| **Seattle, Wash.**—Plant of General Paint Corp. destroyed | 80 |
| **Sullivan, Ind.**—Mohawk mine tipple owned by W. J. Hamilton | 80 |
| **Streator, Ill.**—Main Street business property | 150 |
| **Bearden, Ark.**—Eight buildings in business district | 50 |
| **Columbia, La.**—Towboat and barge of Ouachita Valley Barge Line Co. | 125 |
| **Tulare, Cal.**—Hotel and two adj. stores destroyed | 80 |
| **Butte, Mont.**—Grandstand at Marcus Daly racing plant | 175 |
| **New Bern, N. C.**—Centenary Methodist Church destroyed | 80 |
| **Sharon, Pa.**—Jackson Center Plant of Domestic Fuel Co. | 50 |
| **Akron, Ohio**—Schulman Rubber Reclaiming Plant | 225 |
| **Detroit, Mich.**—Boathouse and five speedboats | 50 |
| **Brookline, Mass.**—Old wing of Brookline High School | 200 |
| **Missoula, Mont.**—Florence Hotel and two adj. buildings | 400 |
| **Everett, Mass.**—Refinery of Colonial Beacon Oil Co., damaged | 80 |
| **Peru, Ind.**—Four barns and machine shop at circus quarters | 70 |
| **Atlanta, Ga.**—Plant of All-Metal Bottle Cooler Corp., adj. property | 50 |
| **Youngstown, Ohio**—Shoe store of Lustig, Inc., destroyed | 80 |
| **Vanguard, Sask.**—Business and residential property | 70 |
| **Flint, Mich.**—Store and filling station of General Tire & Appl. Co. | 50 |
| **York, Neb.**—Coryell Oil Plant damaged | 80 |
| **Duluth, Minn.**—Business property damaged | 50 |
| **Chicago, Ill.**—Wood turning plant of Nicholas Bonnett & Co. | 50 |
| **Toledo, Ohio**—Toledo Tallow Works destroyed | 50 |
| **Duluth, Minn.**—F. W. Woolworth Co. store, W. Superior St., damaged | 50 |

## 35 Firemen Have Narrow Escape

Thirty-five firemen operating on the roof of a burning church at Brooklyn, N. Y., were ordered from their positions and reached the ground just a few moments before the roof crashed, and the steeple toppled over. The Central Presbyterian Church, the largest of its denomination in the East, was destroyed by a five-alarm fire that caused $400,000 damage.

View of the Church Fire at its Height. Building Was Flood Illuminated by Department.

Fire, of undetermined origin, spread rapidly through the entire church, and a three-story building adjoining. The fire is believed to have started in the choir loft and to have worked its way through the church proper. At 11 p. m., forty-five minutes after the fire was discovered, there was nothing left standing but the four walls of the church, and part of the adjoining building. The second, third, fourth and fifth alarms were sent in upon the arrival of the first companies. The firemen were hampered by six-inch water mains, until an order was given to increase the water pressure.

## 3-Alarm Tire Fire

Three alarms were sounded for a fire which broke out in a store of the Firestone Service Stores, Minneapolis, Minn. The blaze started in the tire vulcanizing department and spread rapidly.

Sixteen fire apparatus units responded in command of Chief Traeger, Assistant Chief Huttner and Deputy Chief King. Firemen were hampered by spectators crowding close to the fire. Six members of Box 35 Associates assisted the inadequate number of police in their work. One fireman was thrown from a ladder by a charged hose line, but was not seriously injured.

## Iron Warehouse Razed

Three alarms were turned in at Columbus, Ohio, for a fire which destroyed the warehouse of K. and R. Iron & Metal Company. Eleven companies responded.

It is believed that spontaneous combustion started the fire among the stock of rags, wood, cardboard and scrap metal. Fire spread so fast in the four-story brick building, that before the blaze was extinguished, the walls crumbled from the heat.

Chief Edward P. Welch thanked the resident for making it possible to fight the fire so effectively. Because of the drought, there was a ban on sprinklers for watering gardens. When the fire broke out, the department was not troubled by poor pressure, as the water consumers heeded the city regulation regarding sprinklers.

Fighting the Fire in the Iron Warehouse at Columbus, Ohio

# A MODERN HOSPITAL ON WHEELS FOR OMAHA, NEB., FIRE SERVICE

## Specially Designed Hospital on Standard Truck, Chassis Carries Complete Medical and Rescue Equipment—Has Crew of Three Trained Men

CAPABLE of carrying as many as five accident victims in its spacious compartment, a new hospital on wheels has been placed in service for the Omaha, Neb., Fire Department. Every instrument required by surgeons for emergency operations is part of its equipment, even a government permit to carry narcotics.

The new rescue squad car answers every alarm in Omaha's downtown district and first alarms to all hotels and hospitals within the city. It functions in cooperation with the Police Department's ambulances on accident calls. It is equipped with a police radio receiving set.

The squad car is manned by a crew of three firemen: the driver, a helper—both trained in first aid methods—and a ranking officer who has been given special medical training.

Omaha business firms and officials made the task of equipping the new rescue car a matter of civic pride. The medical association donated instruments and supplies. Railroads sent heavy hoisting jacks and chains, tools and implements. The result has been a rescue unit which seems bound to attract the attention of other city governments, anxious to keep abreast with the growing need for providing help in traffic accident emergencies and meeting promptly any emergency.

The Omaha City Council purchased the Diamond T 1½-ton truck from a local distributor.

View of Inside From the Rear Doors

In the foreground are an acetylene torch, a fire extinguisher, and inhalator. Center cushions may be raised or lowered to fit the occasion. Good air circulation is provided by two small electric fans on back wall.

Mounted across the top of the body are six aluminum spotlights of assorted sizes which form a silver crest to the traditional red brilliancy of a regulation Fire Department unit.

These spotlights work from a 5-kw generator run by a Deitweiler power take-off. Two of the lights have 1,000-watt bulbs; two have 500-watt bulbs and two have 250-watt bulbs.

All available space in the body is used. Directly behind the driver's cab on either side of the compartment are the medical cabinets. On the right, two large cabinets are filled with Fire Department equipment — blankets, hospital bed sheets, etc. On the left are a large drug cabinet and six small medical cabinets.

In one of these small units is a standard hospital size electric sterilizer which operates off the generator. The cabinets contain such necessities as ether masks, abdominal needles, an amputation knife, surgical gowns and masks, to accommodate a working crew of six doctors and nurses. In case of a serious accident involving many persons, the truck can be made a field hospital, with operating table and equipment on hand for a full staff of physicians.

Its equipment includes two tannic acid guns for treating victims of burns. There is an oxygen tent for pneumonia, diphtheria or heart stroke victims, where minutes required rushing a person to the hospital count heavily. A standard inhalator outfit is always on board.

Often before the doctors can go to work, however, there is the problem of reaching the victim. Suppose he is crushed beneath an overturned car. Suppose a drowning person's body hasn't come to the surface of the lake or river. Perhaps someone is trapped, injured, in an upper story of a burning building. The rescue car has the answer to all these situations. It has ladders, crowbars, chisels, shovels, wrenches, hacksaws, pipe cutters.

Handiest to reach and most conspicuous from the open doors at the rear are two large acetylene and oxygen gauges for operating a cutting torch. Working from the truck, the crew has a 50-foot radius in which to operate the cutter.

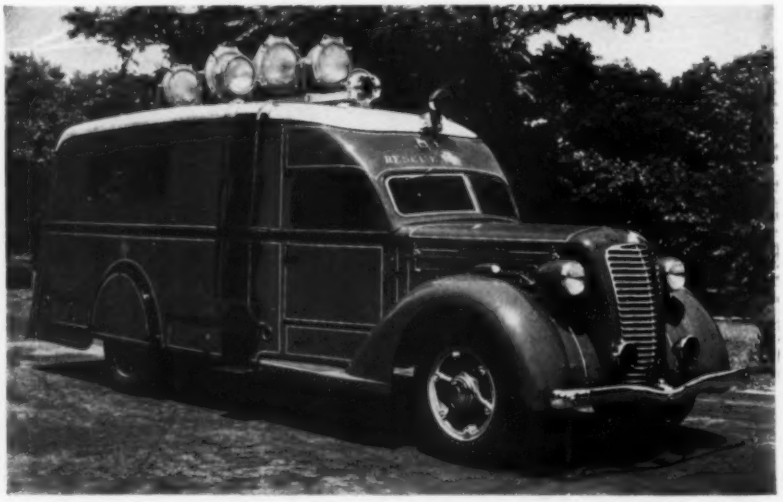
The crew also has a diving helmet as part of its list of accessories. It will allow descent 50 feet below the water's surface.

In another compartment the truck carries a regulation marine life gun and a 500-foot life line which has several uses on land as well as water.

Three gas masks are standard equipment. Two twenty-ton hydraulic jacks are carried on every run.

Behind the medical cabinets are body-length cushioned seats along both sides. These may be adjusted to transform the truck into an invalid coach and when cushions in the center aisle of the compartment are raised, five persons may be carried in invalid fashion.

Sealed panel windows allow plenty of natural light in the compartment and



Rescue Car Showing the Battery of Floodlights on Top

# HERE'S A CROSSWORD* PUZZLE

## *Any "Smoke-Eater" Can Solve*

*Across*—1. ***An effective carbon-dioxide fire extinguisher.*** **(Used for protection of thousands of industrial plants.)**

2. ***Snuffs out, extinguishes.*** **(LUX carbon-dioxide does this faster than any other extinguishing agent.)**

3. ***Blazes, conflagrations*** **(which destroy over $250,000,000 in industrial property each year.)**

*This isn't really a crossword puzzle. But then nobody has a cross word for LUX.

## INDUSTRIAL INSPECTIONS

**Progressive fire departments are doing a great service to local industries. Periodically, these departments conduct a thorough inspection of industrial plants. Fire hazards and fire-fighting equipment are thoroughly analyzed.**

**Surprisingly often extinguishers are entirely unsuited to the hazard they guard. If the hazard involves electrical equipment or flammable liquids, such as paints or gasoline, you can unhesitatingly recommend a LUX extinguisher of proper size.**

**LUX carbon-dioxide snow-and-gas is not only the fastest known extinguishing agent. It is, in many cases, the *only* reliable type of extinguisher that can be used.**

**LUX extinguishers may be purchased in sizes from 2 to 100 pounds of gas capacity. Write for descriptive folder.**

**Walter Kidde & Company**
**1010 West Street Bloomfield, N. J.**

# It Won't Burn!

*Another Important feature of*

## LINEN-LINED FIRE HOSE

Photo shows the Newark, N. J., Fire Department giving LINEN-LINED hose a flame test in which the heavily charged line was suspended over a hot blaze for a period of five minutes. After the test, careful examination showed no damage whatever to the hose.

What safeguards LINEN-LINED hose against fire is simply this: Having no rubber tube on the inside, when the hose is charged with water any heat on the outside will cause a slight sweating through both jackets, thereby moistening the outer surface sufficiently to protect it.

If you have ever been burned up over burned hose, you'll appreciate LINEN-LINED all the more. Added to that, LINEN-LINED has the advantages of less weight, greater strength, greater durability and greater flexibility. It is truly the modern hose for the modern fire department.

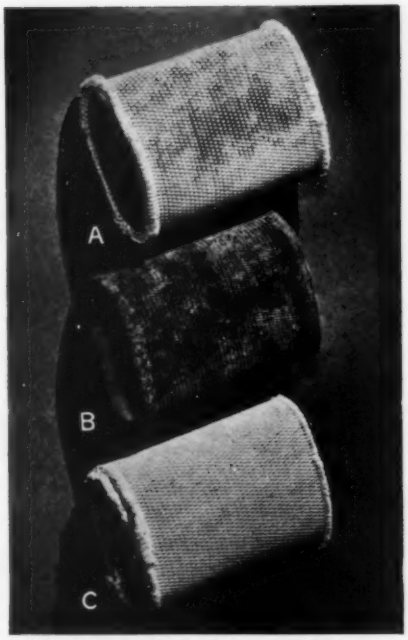
***Ask us to tell you more about it.***

**AMERICAN FIRE HOSE CO.**
**Factory—South and 6th Sts., Passaic, N. J.**
**Phone: Passaic 2-2569**

# NO SIGN OF MILDEW
## AFTER BEING
# PROVAR PROCESSED

★ Saturated with water and exposed for six months to warm, moist atmosphere, Republic PROVAR PROCESSED Fire Hose showed no signs of mildew, no discoloration, no loss of strength or quality. The PROVAR PROCESS is an exclusive method of treating fire hose for mildew protection—far superior to any previous effort by any other manufacturer.

The PROVAR PROCESS is permanent—will not wash out. It means longer life to your hose, greater economy, greater safety, and—the price is the same as regular hose!




**A** Not processed for mildew protection.
**B** Processed for mildew protection by a competitor.
**C** PROVAR PROCESSED Republic Fire Hose —no sign of mildew.

• • •

Unretouched photo showing results after samples were saturated with water and exposed to moist atmosphere for six months.

THE REPUBLIC RUBBER CO.
YOUNGSTOWN, OHIO

# Republic FIRE HOSE

Endorsed by America's Fire Chiefs Everywhere

# COLD NIGHTS ARE HERE!

**More Alarms! More Runs!** —but You can keep warm and dry!

BACK in 1905 we started making the finest quick-hitch suit money and skill could produce. We've been at that one job ever since. Firemen in every nook and cranny of this country can attest to the fact that GLOBE SUITS are "just the finest suit any fireman can buy." The coats are light, easy to work in, yet warm as toast even when you've been drenched. Coats have wide chest protector, pockets with patent stays to prevent sagging or tearing out, warm wristers in sleeves (optional). All are of durable, tough fabric, with waterproof interlining, some with wool linings, some lighter linings. Your choice of Brown, Black or White. Before you order any garment—see a genuine Globe Suit. Write for details.

**$10.00** 35 in. Length for this warm wool lined

**No. 240 COAT**

40 Inch . 10.50 45 Inch . 11.00
50 Inch . 11.50 55 Inch . 12.00

**PANTS** TO MATCH THIS COAT **$7.50**

Other kinds at other prices.

SEND FOR CATALOG AND INFORMATION.

**GLOBE MFG. CO.**
PITTSFIELD, N. H.

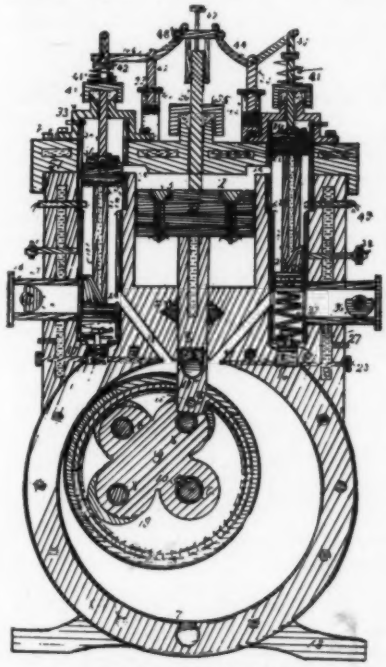
# Globe DURABLE FIREMENS Suits

there are six electric sockets available for artificial lighting.

Windows at the rear are adjustable. Two electric fans attached to the medical cabinets keep the air circulating. There are four exterior body compartments for equipment and extra tires.

## Combination Steam and Gas Engine

Capt. Hugh T. Dunn, of the New York Fire Department, has developed a new engine cycle which is a combination of the diesel cycle of high compression fuel, and steam power.



Cross Section of Combined Engine

The drawing is part of the plans submitted for a patent. When liquid fuel is injected into a cylinder and then compressed to a high point as in the diesel cycle, a large amount of heat is produced. Capt. Dunn has developed a way of injecting water into the cylinder so that this heat will generate steam, and the steam used to provide additional power.

## Maryland School Has Large Attendance

Topping the high attendance mark of two years ago, the seventh annual session of the Maryland Fire College held September 1 to 3 at the University of Maryland had over 250 firemen from 61 Maryland, one Delaware and three Virginia companies. The local state enrollment represented 18 of the 23 counties. Out of 137 registered for the complete course, all but eleven were awarded certificates by the University.

Noteworthy features of the 1936 class were the enrollment of five men from the Greenbelt Resettlement project who took the course preparatory to the establishment of an organized Fire Department on this Federal reservation under construction near Berwyn Heights, Md.

Several new and important features added to the value of the course, among these being the round table discussions on fire department problems for members attending previous courses; more extensive demonstrations and drills in the use of chemicals under the direction of Chief J. H. O'Lexey of Jessups; rearrangement of the major drill periods to increase the scope of pumper work conducted by Chief R. S. Tate of the Baltimore department; availability of a two-story frame dwelling on the campus for more practical hose and ladder evolutions and drills led by Drillmaster Brockwell, North Carolina State Fire Marshal, and Chiefs S. T. Porter and E. A. Davis of Washington and Hyattsville, respectively; a lecture with demonstrations on dust explosions by Dr. D. J. Price of the U. S. Bureau of Chemistry, and a discussion of fire fighting problems by Chief Ross B. Davis of the Philadelphia Fire Department.

Other work included demonstrations by the Baltimore Department drill squad, instructions and drills in salvage work under Chief Edward H. Warr and the Baltimore Fire Insurance Salvage Corps, First Aid by Capt W. C. Brust of the Baltimore Department Infirmary, and gas masks by R. D. Ewing of the Maryland State Bureau of Mines.

Other lecturers and speakers were Dr. Frank N. Ogden, Baltimore department surgeon, who spoke on important first aid principles; W. B. Miller, electrical engineer, National Board of Fire Underwriters, who demonstrated electrical hazards; Sherwood Brockwell, who as chief instructor, discussed and summarized the various course topics; President H. C. Byrd and Prof. S. S. Steinberg of the University of Maryland; J. Millard Tawes, President of the Maryland State Firemen's Association; Walter R. Hough, former General Chairman of the Baltimore Safety Council; Chief Howard Travers of the Baltimore City Fire Department, and C. Howard Whittle, Chairman of the Fire Prevention and Inspection Committee of the Maryland State Firemen's Association.

The course was given under the direction of Prof. Steinberg, Acting Dean of the College of Engineering, assisted by Geo. F. Pollock, Alumni Secretary, University of Maryland; T. W. Venemann, Chairman, and members E. A. Davis, J. H. O'Lexey and Wm. J. Tierney of the Fire College Committee, Maryland State Firemen's Association.

## Maine Fire Chiefs Meet

The annual meeting of the State Association of Fire Chiefs of Maine was held at Norway, September 16, with Chief Oliver T. Sanborn of Portland, President, presiding. The address of welcome was extended to the association by the Chairman of the Board of Assessors, Norway, and was responded to by Chief J. W. Randlette, Richmond. The meeting was held in the recently completed new fire station.

Assistant Chief A. G. Blaquiere, Norway, read a history of the local department.

The following officers were elected: President, Chief Allan Payson, Camden; Vice-President, Chief J. W. Randlette, Richmond; Secretary-Treasurer, Ex-Chief Charles W. Bowker, South Paris; Directors, Chiefs Oliver T. Sanborn, Portland, Charles O. Spear, Jr., South Portland, Sol Mercier, Rumford, John F. Eldredge, Kennebunkport and George E. Bancroft, Auburn.

Lunch was furnished by the Norway department in the fire station. In the afternoon the Chiefs were guests of the Norway department at the Oxford County fair in South Paris. A banquet and round table at 7:30 p.m., in the Norway fire station closed the proceedings.

## White House to Have Automatic Fire Protection

The White House, Washington, is being equipped with a modern, automatic fire alarm system. The protection is part of extensive repairs being made at the White House and is a result of a recent survey made by the Federal Fire Council, which exposed the existence of serious fire hazards in the nation's executive mansion.

The installation, which is being made by the American District Telegraph Company, will cover every room in the executive mansion and all hazardous areas in the wings, and is the same automatic system used in many other Federal buildings.

The installation includes more than two miles of copper tubing so small it can be easily concealed behind mouldings and in decorations. When a fire breaks out, the air confined in the tubing expands, creating a pressure which causes the alarm. Fire prevention experts say that when this system is completed, an outbreak of fire in the White House will be detected and reported so quickly that the blaze will have little chance to gain headway.

**A new fire house** will be erected by the Manhasset-Lakeville Fire District, Manhasset, N. Y. The department has placed an order for a 750-gallon Ward-LaFrance pumper.

**Pumper Tested at New Zealand**

A Ford V-8 powered fire apparatus provided with a 400-gallon pump was tested at Wellington, New Zealand. The pumper delivered 450 gallons per minute at 120 pounds. The nozzle pressure at the end of a 1-inch nozzle was 90 pounds.

## Iowa Firemen Convene

The fifty-ninth annual convention of the Iowa State Firemen's Association was held at Eldora, September 15 and 16. The chief address was given by J. Vincent Pyle, State Fire Marshal.

The program included sport contests, a barbeque and a dance.

## New Nozzle Demonstrated

A new nozzle, known as the Buffalo vapor and spray nozzle, was given a demonstration at Mt. Vernon, N. Y., September 17, before a group of Westchester County fire officials.

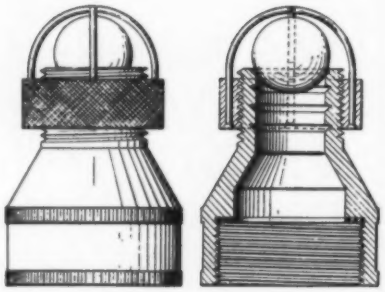
Designed to fit all standard shut-off nozzles, and screwing on in place of the regular tip, the new nozzle operates with a free ball enclosed in an adjustable cage.

With a 1⅜" tip and 150 lbs. engine pressure, quick work was made of a blazing pit containing 150 gals. of fuel oil and 5 gals. of gasoline. Demonstrations were also given of other nozzle sizes down to ⅜", and with lower pressures. It is claimed that the nozzle will operate efficiently at pressure from 40 to 200 pounds.

The inventor, Thos. R. Day, Master Mechanic of the Buffalo Fire Department, supervised the tests.

**Nozzle Demonstration at Mt. Vernon.**

Oil fire (top) being extinguished with Buffalo nozzle (center), T. R. Day, inventor, is shown at bottom holding nozzle.



**The Buffalo Nozzle.**

## Ex-Chief Now Postmaster

Ex-Chief John W. Guire, Long Branch, N. J., a prominent figure at conventions, headed the civil service list for postmaster of Monmouth County, N. J.

## Vermont Firemen Meet

Five hundred firemen registered for the forty-seventh annual convention of the Vermont State Firemen's Association held at Rutland. The officers elected are C. H. Shuttle, Barre, President; Lawrence Gauthier, Montpelier, Fire Vice-President; Martin Percey, North Bennington, Second Vice-President; W. H. Adamas, Vergennes, Secretary and Treasurer.

The convention closed with a dance at the fire headquarters.

## Indiana Firemen to Hold Short School

A short fire school is to be held at Purdue University, West Lafayette, Ind., October 27 and 28, under the supervision of Prof. W. A. Knapp, Director of the State Fire School. Last year the Indiana school had an enrollment of 538, claimed to be the largest for any fire school in the United States. Those in charge hope to exceed last year's figures.

Among those who will give lectures at the school are Chief Williams, of the Cincinnati Drill School; Chief Callahan, of the Detroit Drill School; Dr. David Price, of the U. S. Department of Agriculture; Richard E. Vernor, of the Western Actuarial Bureau; Clarence Goldsmith, of the National Board of Fire Underwriters, and others.

## Chief Toshach Has 50th Anniversary

A. John Toshach, First Assistant Chief, Savannah Fire Department, rounded out fifty years in the department. The Mayor and the Council presented him with a gold watch. A large part of the Fire Department and the department band were on hand to watch the presentation of the many gifts given by the friends that he had made.

The Mayor said that there was less politics in the Savannah department than in any other one in the country.

D. G. Aid.

## Eames, Chief of Reading, Mass.

Capt. Hugh L. Eames has been appointed Chief of Fire Department, Reading, Mass., to fill the vacancy caused by the retirement of Chief Orville O. Ordway, who ended forty-seven years of service with the department.

Chief Eames has been a member of the department since January, 1908. He was appointed permanent fireman in 1913; Superintendent of Fire Alarm in 1923, succeeding his father, a fireman for fifty-one years; inspector of wires, in 1928.

Chief Eames is an instructor in first aid for the American Red Cross, and an examiner in first aid for the Boy Scouts and the Girl Scouts.

## Walworth County Officers Elect

J. E. Florin, Superintendent of Fire Prevention, Industrial Commission of Wisconsin, was one of the speakers at the sixth annual meeting of the Walworth County Fire Officers Association held at Clinton, Wis., with 136 persons present. Dr. C. V. Bachellé, President, presided.

Capt. Clark of the Rockford Fire Department gave a demonstration of the use of salvage covers. Chief Thomas D. Blake, Rockford, spoke on "Salvage and Ventilation," and urged volunteers to give this matter close attention. A set of signals to be used at fires was presented by the Drill Committee and was accepted for use by all the departments.

All of the officers were re-elected. They are Dr. C. V. Bachellé, Delavan, President; H. O. Robb, Sharon, Vice-President; C. A. Foster, Lake Geneva, Secretary-Treasurer.

## Department and Other Reports Received

**Ft. Collins, Col.**—Annual report of the Fire Department; illustrated, fifteen pages.

**Illinois Firemen**—Proceedings of the forty-eighth annual convention of the Illinois Firemen's Association; illustrated, 242 pages.

**Atlanta, Ga.**—Fifty-fourth annual report of Fire Department, Atlanta, Ga.; illustrated, thirty pages.

**New Jersey Firemen**—Fifty-eighth annual convention of the New Jersey State Firemen's Association; 176 pages.

**Minneapolis, Minn.**—Annual report of the Fire Department, Minneapolis, Minn.; sixty-two pages, illustrated.

**Brockton, Mass.**—Annual report of the Fire Department and the Superintendent of Fire Alarm, Brockton, Mass.; eighty-five pages.

**Maritime Fire Chiefs' Association**—Proceedings of the twenty-second annual convention of the Maritime Fire Chief's Association, held at Kentville, N. S.; Sixty-four pages, illustrated.

**Long Beach, Cal.**—Thirty-third annual report of the Fire Department, Long Beach, Cal.; fifty-nine pages.

**Wilmington, Del.**—Annual report of the Superintendent of Public Safety, Wilmington, Del.; illustrated, ninety-three pages.

**Indianapolis, Ind.**—Annual report of the Bureau of Fire Prevention, Indianapolis, Ind.: nine mimeographed pages.

**Singapore, Malay Straits**—Annual report of Fire Department, Singapore, Malay Straits; five pages.

*There is Still No Substitute for Genuine*

# BODY-GUARD BUNKER SUITS

PROTECTION from exposure at winter fires is just a matter of good sense. The most sensible protection you can buy is a BODY-GUARD SUIT. They will keep you warm and dry for many a winter. They are comfortable to work in. They last for years. Water-repellent canvas duck outside, rubber inter-lining, warm wool lining, sheepskin or corduroy collars. Finest snaps and buckles. Every coat guaranteed to serve you well. Thousands of firemen endorse them. You'll be proud to wear them and you can be sure they are the last word in protection.

BODY-GUARD SUITS *are carried in stock by*
**CAIRNS & BRO.**
444 LAFAYETTE STREET - NEW YORK
*Eastern Distributors*

## BODY GUARD MANUFACTURING COMPANY
ST. JOSEPH MISSOURI

## BUCKEYE *improved* MOTO-RAY

## . . . a rugged, popular priced oscillating signal light

"Sweeps Danger Out of Your Way" because the wide-sweeping motion of the strong red beam gives unmistakable warning of the *approach* of an emergency car — blocks away.

The Buckeye Improved MOTO-RAY throws its 50-candlepower beam right and left 40 times per minute and is particularly effective at street intersections where the danger of accidents is greatest. It is ruggedly built; equipped with a powerful motor, dependable in all sorts of weather and will stand hard service.

With present heavy motor traffic and glare of headlights — the need for MOTO-RAY *in addition to sirens and whistles* is imperative. Buckeye MOTO-RAY is made exclusively for chiefs' cars, emergency and police department scout and cruiser cars, ambulances, and all types of fire apparatus. Its cost is low. It is easy to install. Write for complete information.

**WHISTLES, SHUT-OFF NOZZLES, ROTO-RAYS**
**and Other Fire Department Equipment**

**BUCKEYE IRON & BRASS WORKS, DAYTON, OHIO**

*It will help if you will mention* FIRE ENGINEERING *when writing advertisers*

# It Helps Save Life!

**PROMPT action of the South Bend, Indiana, Fire Department in applying U. S. Safeway Tanspray was probably responsible for saving life at a recent explosion. Read the Chief's letter.**

Read what Chief FREEH of South Bend, Indiana, has to say about TANSPRAY.

CITY OF SOUTH BEND
FIRE DEPARTMENT
SOUTH BEND, INDIANA

September 23, 1936.

U. S. Fire Equipment Co.,
180 N. Wacker Drive,
Chicago, Illinois.

Gentlemen:

Most beneficial results have been obtained by our department in treating burned victims with your Tannic Acid Spray Units. Especially on September 18th when the department was called to a fire in a small dwelling on the outskirts of the city. We found several members of a family seriously burned, one fatally, due to a gasoline stove explosion. The splendid results obtained in this case has been most gratifying. We wish to heartily recommend your units to anyone who is desirous of this modern equipment for the treatment of burned victims. Our department would not be without it.

Sincerely yours,
CHIEF WM. FREEH.
Chief of Fire Department, South Bend, Ind.

## U. S. SAFEWAY TANSPRAY KIT

Protect your firemen and citizens by installing a U. S. SAFEWAY TANSPRAY Kit in each of your fire stations. *Write today for full information and prices. No obligation, of course.*

**U. S. FIRE EQUIPMENT CO.**
180 N. WACKER DRIVE, CHICAGO

# Highly Endorsed by Fire Chiefs Everywhere!

***Chief Henry of Lexington, Ky. writes:***

"The 'Fire Chief's Handbook' is the work of one of vast experience. Every fireman should have a copy for study and reference."

***Chief Gambrell of Dallas, Texas writes:***

"It is very instructive and helpful. We find this book very convenient to refer to in our school work."

# THE FIRE CHIEF'S HANDBOOK

By FRED SHEPPERD

*In Collaboration with the* EDUCATIONAL COMMITTEE *of the* INTERNATIONAL ASSOCIATION OF FIRE CHIEFS

**THERE have been books on fire-fighting, but never anything so complete and authoritative as the "Fire Chief's Handbook." This book, a gold-mine of practical, helpful data, gives a reliable, up-to-the-minute answer to almost every question that might come up in modern fire-fighting practice.**

**For progressive fire chiefs, interested in up-to-date fire fighting methods, the "Fire Chief's Handbook" will be a mighty valuable reference guide. It gives to ambitious fire department officers and men, in plain, understandable form, information that should prove extremely helpful in preparing for promotional examinations. In fact, it is a book every fighter needs and ought to have. *The Edition is Limited—Better Order Your Copy Today.***

CASE-SHEPPERD-MANN PUBLISHING CORP., 24 W. 40th St., New York City

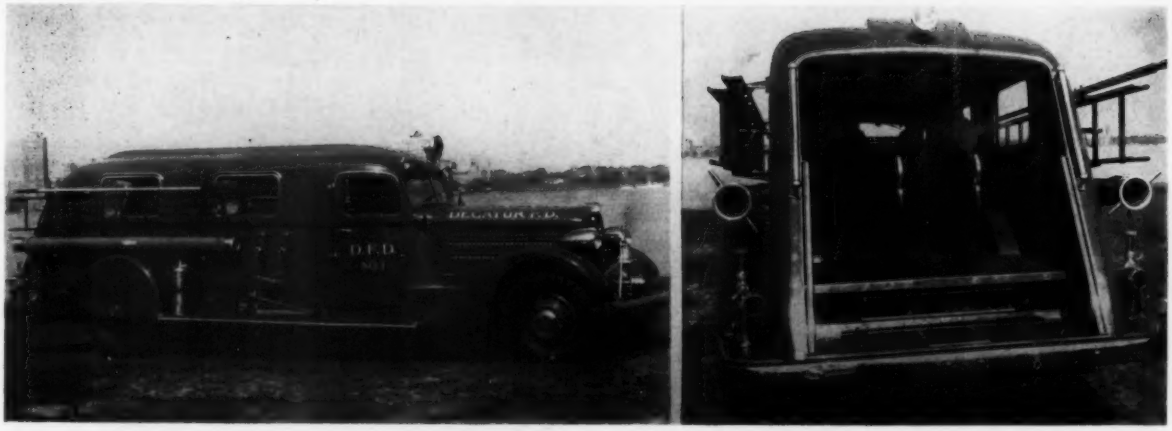
**$4.00** *per copy postpaid*

***If the book isn't what you expected, return it within 5 days and your money will gladly be refunded.***

***Here are some of the subjects covered:***

- FIRE DEPARTMENT TOOLS AND EQUIPMENT
- MOTOR FIRE APPARATUS PUMPS
- FIRE EXTINGUISHERS AND THEIR USE
- FIRE STREAMS
- FIRE-FIGHTING METHODS
- FIRE STATION DESIGN
- TRAINING OF FIREMEN
- SALVAGE OPERATIONS
- BUILDING INSPECTION
- VENTILATION AT FIRES
- CARE OF FIRE HOSE
- CHEMISTRY OF FIRE
- HEAT AND ITS ACTION
- DRILL TOWERS
- DRILLS AND EVOLUTIONS
- FORCIBLE ENTRY
- EXPOSURES
- STANDPIPE WORK AT FIRES

***—and Many Other Things***



Side and Rear Views of the Enclosed Pumper Delivered to Decatur, Ill.

## Closed Body Pumper

A 1,000 gallon multiple stage centrifugal pumper has been delivered to Decatur, Ill., by the General Fire Truck Corporation, Detroit, Mich. The apparatus has an enclosed, fully streamlined body with bus type seats for four firemen. There is additional room on the driver's seat for three men. The all steel body has an insulated roof.

The apparatus has space for 1,500 feet of 2½-inch hose, carries a 100-gallon booster tank with 200 feet of 1-inch booster hose reel, and has lockers inside above the window. The 2½-inch hose is loaded on each side of the body. In between there is a runway for firemen entering their compartment. Chrome rollers on the sides and floor aid in unloading hose.

The control panel includes heated gauges, indirect lighting, pump, oil, fuel, and tachometer gauges together with throttle pump drain, governor, etc.

The pumper has a combination pump heater and engine cooler, allowing for the use of anti-freeze in cooling system, and the circulation of warm water through the coil to eliminate the danger of the pump freezing while answering a fire alarm in zero weather.

The road speed of this 14,000-pound unit is about seventy-five miles an hour, and it is powered by a 230 h.p. motor.

The mounting of the suction hose and ladders may be inside or outside.

## Chiefs Urged to Cut Speed

Chiefs attending the annual convention of the Wisconsin Fire Chiefs Association at Waukesha, were urged by Clarence Goldsmith, Assistant Chief Engineer, National Board of Fire Underwriters, Chicago, to avoid speeding to fires. He said that it is better to get to a fire at a moderate rate of speed than not to get there at all due to an accident.

Dr. E. G. Meiter, Director of the Industrial Hygiene Laboratory, Employers' Mutual Insurance Company, spoke on "Carbon Monoxide, the Unseen Danger."

Chief Thomas D. Blake, Rockford, Ill., President, Great Lakes Division of the International Association of Fire Chiefs, spoke on "Salvage."

The new officers are Henry Hanson, Rhinelander, President; John Feutz, Slinger, Vice-President; August P. Simon, Ladysmith, Secretary; A. J. Kupplic, Manitowoc, Treasurer.

It was decided to hold the 1937 convention at Wisconsin Dells, Wis.

## N. J. Chiefs Re-Elect Officers

At the annual meeting of the New Jersey State Fire Chiefs' Association held at Atlantic City, all the officers were re-elected.

The meeting was held the night a hurricane was sweeping up the Atlantic coast, and it caused a reduction in the number of those attending.

The officers of the association are Charles W. Greenfield, Arlington, President; Charles Nickerson, Wildwood, Vice-President; Fred A. Trowbridge, Morristown, Secretary; George L. Mitchell, East Orange, Treasurer. Chief Charles McGinley, East Orange was elected trustee for three years. Mr. Greenfield starts his eighteenth consecutive year as President. During that time, no candidate for President has ever been nominated against him.

## Arson Losses Decreased

"Contrary to general belief that the business depression of the past several years caused an increase in arson and fire losses, the fact is that fire losses decreased approximately forty per cent, as compared with the losses reported prior to the depression era." Thomas P. Brophy, Chief Fire Marshal, New York City, explained this to members of the International Association of Chiefs of Police gathered at Kansas City, Mo., for a convention.

"The reduction in the number of fires and fire losses since the depression is attributed principally to low inventories —there being no surplus stocks on hand —thus making a fire unattractive from a financial standpoint. There are other factors for these conditions such as the reduction in the amount of insurance carried on risks and greater care and caution which is exercised by insurance companies in their underwriting, all of which have removed the incentive to have a crooked fire.

"When business and merchandising return to former levels, there is bound to be carelessness and a consequent increase in fire hazards, with a resultant increase in fires and fire losses throughout the country.

"Like other criminals, the firebug has advanced with the times in his methods of operation. To keep up with him, the public official has got to study constantly in order to keep himself familiar with all the tricks of the arson racket. The schemes and contrivances of the incendiary in his fiendish operations are sometimes exceedingly ingenious, particularly in the arrangement of time-fuse plants, so that the firebug can make his get-away long before the discovery of the fire and thus fortify himself in establishing an alibi. The present day firebug endeavors to convey the impression that his crooked fire was of accidental origin.

"Women play a most important part in the crime of incendiarism. Some of the most adroit and skilled incendiaries are females. I have found mothers of families—yes, even grandmothers—who did not hesitate to engage in the cold-blooded business of burning homes for fire insurance money. In many cases, clothes closets have been found to burn up some out-of-date wearing apparel in order to collect insurance from fire insurance companies with the hope of replenishing their wardrobes to conform to the change in the modes of fashions of the day."

Mr. Brophy emphasized the importance of obtaining personal histories of all persons involved or suspected in cases of suspicious fires. He advocated a wider scope of interchange of information between Police Departments with a particular objective for checking on the firebug who repeats his crimes in other states where he might not have been previously known or recorded because of his wanderlust.

WM. JEROME DALY.

## Chief McNulty, St. Petersburg, Retired

Chief J. T. McNulty, who was Chief of Fire Department, St. Petersburg, Fla., for twenty-three years, retired. He was pensioned at two-thirds of his salary.

**Applying Tannic Acid Spray on the Burns of a Two-Year-Old Boy**

Left to right the members of the South Bend, Ind., Fire Department, are: Floyd Robertson, Capt. Percy Alford, Lieut. William Gnoth and Frank Logan.

## Tannic Acid Fights Burns

Prompt application by firemen of tannic acid on the burns of a two-year old boy, a survivor of a fatal fire at South Bend, Ind., did much to soothe pain and start a smooth healing of the scorched tissue.

The boy and a brother were rescued by their parents when an oil stove exploded. Flames prevented the rescue of a four-year old sister. Firemen who responded applied a spray of tannic acid to the burns of the victims.

Tannic acid as a treatment for severe burns is a comparatively new way of relieving the intense pain when large parts of the skin are scorched. Prompt action prevents bad scars and starts healing at once. The spray is applied over a large area quickly, and as rubbing of the skin is eliminated, needless pain is prevented. As the spray supplies a coating, there is little danger from infection. Tannic acid sprays are now carried as standard equipment on fire apparatus.

Dr. Royal S. Copeland, whose writings have appeared in many newspapers, states:

"Neglect or faulty care of a burn leads to serious scarring and permanent disability. Heart trouble and other complications may set in on the fourth or fifth day, or even earlier. It will be seen how essential it is to receive immediate care for this serious accident.

"Within recent years great strides have been made in the treatment of burns with tannic acid. The application of tannic acid causes the burned tissues to become tanned and leatherized."

According to the U. S. Public Health Service, burns cause one-third more deaths among children of pre-school age than automobile accidents. These burns did not include those received in conflagrations, but were chiefly those received in and about the home. At the ages of one, two, three and five, the deaths from burns per 100,000 children were 22, 20, 18 and 17 respectively.

## State Asked to Pay $100,000 Loss

A case is now before the Court of Claims, New York, which if approved, will open up an entirely new angle to the fire loss and insurance question. A way will be opened, it is said, for insurance companies to collect from the state each time losses are sustained because cities fail to supply the proper fire protection. In part, the petition reads:

"That on or about the seventh day of June, 1936, this claimant, who was in the warehousing business with offices and warehouse located at Nos. 126-140 Odell Street, Schenectady, N. Y., suffered great damage to his property and the property of others, when his warehouse and the contents thereof were completely destroyed as the result of a fire of unknown origin in a building nearby which spread to claimant's warehouse by reason of the failure on the part of the State of New York, its agents, servants and employees upon promptly being notified of the fire, in omitting and neglecting, after said notice, to supply or furnish sufficient or adequate quantities of water with adequate pressure sufficient to extinguish the fire before it reached the warehouse of the claimant. . . .

"That it was the duty of the State of New York to furnish adequate and sufficient fire protection; that the State of New York through its authorized agent, the City of Schenectady, its agents, servants, and (or) employes, failed, omitted and neglected to supply or furnish a sufficient or adequate supply of water, hose and pressure to transport the same and did not have sufficient men or apparatus to propel, control or extinguish the fire in question, thereby causing a loss to the claimant in the sum of $100,000."

At the office of Harry W. Williams, Albany attorney, who filed the claim papers for Mr. Rudd, it was stated that in preparing the case the conclusion had been reached by counsel that firemen, outside of mere operators of municipally owned vehicles, are in fact officers of the State and to them is delegated the police power of fighting fires on behalf of the State; that such being the case, the State, and not the city, is primarily responsible for the furnishing of adequate fire protection, and it will no doubt be along these lines that the argument for the claim will be predicated.

So far as is known this is the first claim of its kind that has been filed with the Court of Claims and as it sets up a new ground for action, the court is bound to give the subject thorough study and consideration.

## Lochard Re-Elected by California Firemen

Cecil M. Lochard was re-elected President of the California State Firemen's Association at the convention held at Lodi.

The other officers elected are H. M. Heiser, Sacramento; William Locarnini, El Verano, First Vice-President; Paul Mecurio, Carmel, Second Vice-President; Dan Briscoe, Neptune Beach, Third Vice-President; G. R. Shane, Red Bluff, North District Director; Charles Sweeney, Antioch, Central District Director; George Norris, Sierra Madre, South District Director. Harry Strasser, San Diego, was re-elected Secretary-Treasurer, an office he has held since the association was formed in 1922.

The next convention will be held at Redding.

## Capt. Mulligan of New Haven Honored

Firemen from all parts of Connecticut attended a state-wide testimonial dinner to Capt. Eugene J. Mulligan of the New Haven Fire Department at Wilcox's Pier Restaurant, West Haven, Conn., September 28, to honor his election as President of the Connecticut State Firemen's Association.

Heading the list of speakers was Lieut. Governor T. Frank Hayes, who praised the firemen of Connecticut for the service they are rendering annually to keep down the fire losses in their respective communities.

Others who addressed the five hundred friends of Capt. Mulligan were Mayor John W. Murphy, New Haven; Chief Lawrence E. Reif, New Haven Fire Department; Rev. Michael J. Thompson, West Haven, Chaplain of the Connecticut State Firemen's Association; William Miller, Wallingford, State Commander of the American Legion, of which Captain Mulligan is a member and J. Portland Graham, Waterbury, President of the Brass City Arm and Hammer Club.

Friends of Capt. Mulligan in the New Haven Fire Department presented him with a wrist watch.

THOMAS F. MAGNER.

**PROOF!**

HUDSON FIRE DEPARTMENT
Hudson, Ohio

D. B. Smith & Co.,
Utica, N. Y.

Gentlemen:—The Indian Fire Pumps we have on our trucks are the finest portable extinguishers I have ever used. They are the quickest, most economical means of extinguishing grass, brush, rubbish, awning or roof fires. Time after time we have succeeded in putting out large grass fires with our Indians, without having to lay a hose.

Very truly yours,
FRANK MITCHELL,
Fire Chief.

Indian Fire Pumps are in use all over the world—Fire chiefs acclaim Indians the most valuable equipment obtainable for fighting forest, brush, grass and spot fires.

**Truck Carrying Rack**

Carrying rack of unbreakable malleable iron which bolts to running board or floor of truck makes outfit complete. Straps hold pump in place. Instantly locked or unfastened for use.

# INDIAN FIRE PUMPS

**Write for Descriptive Literature**

## D. B. SMITH & CO., UTICA, N. Y.

*PACIFIC COAST AGENTS:*

Hercules Equipment & Rubber Co., 550 Third St., San Francisco, Calif.
Western Loggers' Machinery Co., 302 SW. 4th St., Portland, Oregon
Pacific Marine Supply Co., 1217 Western Ave., Seattle, Wash.

**with HOMELITE Portable Floodlight**

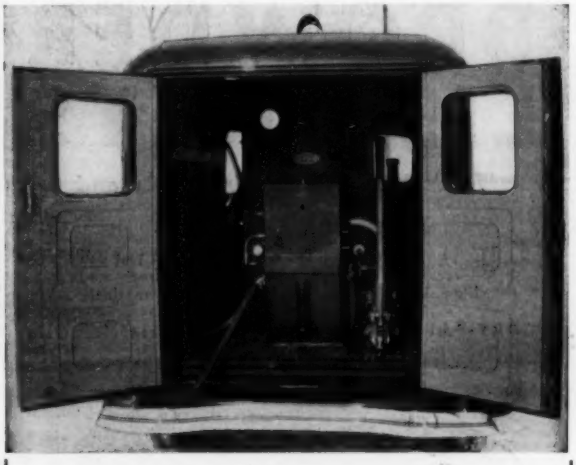
With a Homelite Portable Floodlighting Plant you can reduce the hazards of night fires—and do it within your budget. This complete plant is low in cost, weighs only 89 pounds—including built-in gasoline engine. Yet it generates 1250 watts—enough to operate several brilliant floodlights.

Easily portable, one man can set it up quickly wherever needed. It starts instantly in any weather and needs no attention after starting. Voltage is automatically held at 110 and the air-cooled gasoline engine is water and dustproof and won't freeze or overheat. Thousands are in use.

***Homelite Portable Floodlight Plants come in two capacities: 1250 watts—weighs 89 pounds; 650 watts—weighs 71 pounds.***

*Send for bulletin.*

**HOMELITE CORPORATION**
1210 RIVERDALE AVENUE, PORT CHESTER, N. Y., U. S. A.



**NO FROZEN HYDRANTS** *. . . not if you use a*

**BRYAN STEAM THAWING UNIT**

This highly efficient and thoroughly dependable unit thaws hydrants in just about 2 minutes. It is an oil-burning steam generator and it will fit in any small commercial truck. Keeps apparatus free of ice. New York City has 15 in service. Get the necessary information on this thawing device now. Don't wait till freeze-ups occur.

**BRYAN STEAM CORPORATION**
PERU, INDIANA

*Put at Least One on Every Truck!*

**KANT-BLAZE**
**FIRE BLANKET**

A small item—but a very important one, if you want to do the utmost in rescue of life. Smothers incipient blazes instantly without water or chemical. If you haven't seen one yet, write us, we'll do the rest.

*(DEALERS WANTED)*

**$15** Including Knapsack
**UNITED PYRO-CHEMICAL CORP.**
434 UNION STREET LYNN, MASS.

**A PARTIAL LIST OF ELKHART PRODUCTS**

*34 years service in the fire field*
•
*Prompt service Quality products*
•

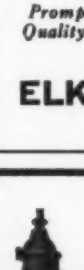
Shut-Off Nozzles
Controlling Nozzles
Turret Pipes
Fire Department Extinguishers
Extinguisher Holders
Fire Truck Body Fittings
Hose House Equipment
All Types Hose Couplings
Sliding Poles, Railings and Canopies
Fog Nozzles
Hose Test Pumps
Threading Tools
Coupling Expanders
Pump and Hydrant Valves
Hose Racks and Cabinets
Siamese Connections
Underwriters' Industrial Extinguishers

**ELKHART BRASS MFG. CO.**
ELKHART, INDIANA

THE time and money spent by the Hale Company in research, development and testing has brought a definite return in experience which becomes a part of Hale pumps. Imitations of Hale pumps do not carry this asset.

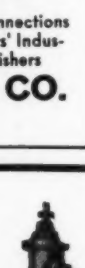
**HALE FIRE PUMP CO., Inc.**
CONSHOHOCKEN, PA.

**EDDY**
**Fire Hydrants**



Are given preference by so many fire protection and water works men because they know that more than half a century of experience go into their manufacture and they embody valuable and exclusive features.

*Write for the Facts*



**EDDY VALVE CO.**
**Waterford, N. Y.**
James B. Clow & Sons, Chicago Agents

**BROWDER LIFE NETS**

*In Service in Most Fire Depts. and Fire Schools*

IF you haven't seen the new BROWDER you can't realize what big improvements have been made in life nets. Write for literature or consult your dealer.

**CORY-PATTERSON MFG. CO., Greenfield, Ohio**

**NORTHERN PUMP COMPANY**
ESTABLISHED 1907
MINNEAPOLIS, MINN.

Pat. Pending
**C-5 COASTER SIREN**
WITH or WITHOUT ELECTRIC BRAKE

DOUBLE ACTION
**SIRENS**
STREAMLINED
**WITH FLASHING LIGHT AND A NEW TONE ROAR**

CONSIDER THESE FEATURES:
- Streamlined beauty combined with rugged construction and durability.
- A Siren Roar combined with Flashing Rays of Light that can be heard and seen.
- Greased sealed ball bearings aid ease of operation. Precision standards.
- Flashing light can be operated with siren roar or independently.
- Fully chrome plated.
- Loudest by test . . . brightest warning light.

WRITE FOR BULLETIN No. 54
**FEDERAL ELECTRIC CO.**
8702 SOUTH STATE ST. - CHICAGO, ILL.

**TRAFFIC MASTER**
MODEL "W"
*(Either Red or Green Lights Available)*

# SOME INTERESTING DATA ON COMMON REFRIGERANTS

## Underwriters' Laboratories Lists Sustances Used as Refrigerants in Connection with Their Inflammable and Toxic Properties

| Name of Substance | Flammability | Toxicity Classification Group No. ** |
|---|---|---|
| Ammonia | Note C | 2 |
| Butane | Note A | 5 |
| Carbon Dioxide | Non-flammable | 5 |
| Carbon Tetrachloride | Non-flammable | 3 |
| Dichlorethylene | Note B | 4* |
| Dichlorodifluoromethane (F-12) | Non-flammable | 6* |
| Dichloromonofluoromethane (F-21) | Note D | Bet. 4 and 5* |
| Dichlorotetrafluoroethane (F-114) | Non-flammable | 6* |
| Ethane | Note A | 5 |
| Ethyl Bromide | Note B | 4* |
| Ethyl Chloride | Note B | Bet. 4 and 5* |
| Methyl Bromide | Note D | 2* |
| Methyl Chloride | Note B | 4* |
| Methylene Chloride (Dichloromethane) | Note D | Bet. 4 and 5* |
| Methyl Formate | Note A | 3 |
| Monofluorotrichloromethane (F-11) | Non-flammable | 5* |
| Propane | Note A | 5 |
| Sulphur Dioxide | Non-flammable | 1 |

Note A. In a class with illuminating gas and the vapor of gasoline.
Note B. Moderately flammable; much less hazardous than gasoline but more hazardous than ammonia.
Note C. An explosion of ammonia-air mixtures of high concentration (16 to 26% ammonia by volume) is possible, but usually, under practical conditions, combustion of ammonia is slow and weak.
Note D. Fire hazard is very small from a practical standpoint.

*These refrigerants are decomposed by contact with flame or very hot surfaces, producing fumes which are toxic and irritating but give definite warning of their presence before dangerous concentrations are reached.

**Sulphur dioxide (Group 1) has a toxicity which is comparatively high (concentrations of the order of ½ to 1% for duration of exposure of the order of 5 min. will cause death or serious injury). Substances in Group 2 are less toxic, in Group 3 still less toxic, etc. An idea of the danger from refrigerants in Group 5 may be obtained from the fact that carbon dioxide, which is in Group 5, has been extensively used in industry and as a fire extinguishing agent with a record which indicates that its actual life hazard under ordinary conditions is small.

THE table above lists most of the substances used as refrigerants and gives data on their flammable and toxic properties. For purpose of comparison similar data are given on carbon tetrachloride, a commonly used extinguishing agent.

These data are taken from Underwriters Laboratories' Report MH2375 on the Comparative Life, Fire, and Explosion Hazards of Common Refrigerants, and from the supplementary Report MH2630 on dichloromonofluoromethane.

Other information of interest is given in the following paragraphs, also taken largely from Underwriters Laboratories' Report MH2375:

Ammonia is an irritant gas having a sharp, penetrating odor which gives adequate warning of its presence.

Butane, Ethane and Propane have practically no odor and do not give warning of their presence in air in dangerous concentrations. Butane and Propane are anaesthetics.

Carbon Dioxide is odorless but its physiological effects when breathed in mild or moderate concentrations serve in a measure as a warning of its presence.

Dichlorethylene is an anaesthetic gas having an odor which resembles chloroform. It does not give adequate warning of danger.

Dichlorodifluoromethane (F-12, Freon) has an odor resembling that of chloroform.

Ethyl Bromide does not give adequate warning of its presence in air in dangerous concentrations.

Ethyl Chloride is an anaesthetic which gives some warning of its presence but a person might tolerate exposures to it in dangerous concentrations until helpless.

Methyl Bromide has an odor but it is not distinctly unpleasant and does not give definite warning of its presence in dangerous concentrations.

Methyl Chloride is an anaesthetic which does not give definite warning of its presence in dangerous concentrations, but when used as a refrigerant it usually contains substances which give adequate warning.

Methylene Chloride (Dichloromethane or Carrene No. 1) has a physiological acion which gives some warning of its presence.

Methyl Formate is an irritant and gives definite warning of its presence.

Sulphur Dioxide is exceedingly irritating to the eyes and throat, even in very low concentrations, so that persons breathing it make every effort to escape before serious injury occurs.

Every Fire Department should be acquainted with the location of refrigerating systems and with the gases contained therein, so that they may prepare themselves against the hazards presented. As indicated in this bulletin there may be fire and explosion hazards as well as danger from breathing the gas. Escape of gas may be caused by a fire or may be from just a leak to which the Fire Department has been called. In either case the Fire Department may need gas masks, and if so, needs to be trained in their use.

## St. Paul Buffs Organize

A box club is being formed in St. Paul, Minn. All interested should communicate with Fred Clinton, 229 Earl Street, St. Paul, Minn.

## Book on New Jersey Fire Laws

The New Jersey and New York Volunteer Firemen's Association has issued a book which contains all laws of the state of New Jersey of interest to paid, volunteer and exempt firemen. The price to members is $2 and to non-members, $4, and the book may be obtained by writing to Charles M. Fales, 92 Clove Avenue, Haverstraw, N. Y.

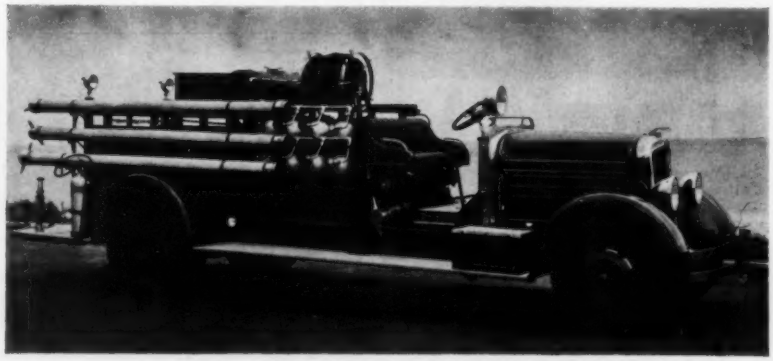
## Chief Steinkellner Operated On

Chief Peter Steinkellner, Milwaukee, is recuperating from a major operation performed at the Milwaukee General Hospital. While at the hospital, his room was overflowing with flowers. He directed that these be distributed to patients who were not so well remembered.

## Method of Extinguishing Oil Fires

Chiefs who attended the meeting of the New London County Fire Chiefs' Association held at Norwich, Conn., witnessed a demonstration of fighting oil fires by the use of a foam producing nozzle. This method uses a solution which is carried in a special tank on the back of a fireman. This solution enters the hose line fed by the pumper or hydrant, and emerges in the form of foam.

Chief Henry R. Taft, Norwich, also demonstrated very effectively an old spray nozzle purchased about thirty years ago, that he had altered so that a fine mist was generated to fight oil fires. The fog is converted into steam by the heat of the fire, and the steam blankets out the air required for the support of combustion.



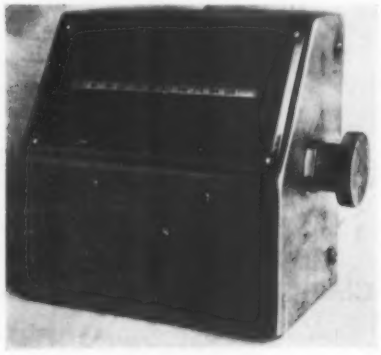
**Apparatus With $CO_2$ Tanks Delivered to Torpedo Station**

A 500-gallon Pirsch pumper, provided with a battery of carbon dioxide tanks, was delivered to the U. S. Navy Torpedo Station, Keyport, Wash.

## Manufacturers' Announcements

### Hydraulic Calculator

A hydraulic calculator has been designed by Capt. L. A. Barada, 2105 Fifth Street, Santa Monica, Cal., for mounting on fire apparatus. The device makes it easy for the engineer to give the proper engine pressure for various layouts, siamese or otherwise. It shows engine pressure for all size nozzles and hose line lengths to 1,000 feet, vertical and horizontal reach of streams, etc.



Hydraulic Calculator

### Chemical Aspects of Fire

Walter Kidde & Co., 40 Cedar Street, New York, N. Y., are distributing a booklet on "A Discourse on the Chemical Aspect of Fire," by David Leerburger of that company. It has fourteen pages and many illustrations.

### Al Herring, Jr., in Fire Field

Harry Albert Herring, Jr., son of Chief Al Herring, Murphysboro, Ill., is representing a number of manufacturers in the fire-fighting field. He is representative for the Eureka Fire Hose Manufacturing Company, Elkhart Brass Manufacturing Company, Federal Electric Company, Mine Safety Appliances, S. & M. lamps and other products.

### New Size Aerial Ladder

Peter Pirsch & Sons Company, Kenosha, Wis., announces a new aerial ladder intermediate with the present junior and the hydro-mechanical aerial as regards size. The junior is furnished in lengths of 50 to 60 feet, the intermediate 65 to 70 feet, and the senior size, which has been built up to 85 feet, will be supplied from 75 to 100 feet. All three sizes are available with either wood or metal ladders for both the ground and aerial ladders.

### Hose Treatment

Patents have been granted to the Manhattan Rubber Manufacturing Division of Raybestos-Manhattan, Inc., Passaic, N. J., for their "radio-active" treatment of fire hose. This treatment is applied to the cotton fabric used in the making of the hose. It involves processing with metal salts having radio-active properties which are said to resist mildew and make the hose moisture repellant, rot and freezeproof. Hose that has been treated in this manner by the company has a distinctive green color.

### Hale Pumps

The Hale Fire Pump Co., Conshohocken, Pa., has issued a twenty-nine page illustrated catalogue describing their line of fire pumps. The models include the "Dreadnaught" rotary, multi-service centrifugal, single-stage centrifugal and rotary booster pumps.

There are photographs showing the assembled views of the pumps, and also ones showing the component parts.

The company was founded in 1915 and it first manufactured the three-tooth rotor rotary pumps.

The book has data on hose layouts, friction loss, and nozzle pressures and flows.

## CONVENTION DATES

Oct. 13-15—ILLINOIS FIREMEN'S ASSOCIATION. 49th Annual Convention, Pekin, Ill. Secretary, Assistant Chief Roy W. Alsip, Fire Department, Champaign, Ill.

Oct. 14—NASSAU COUNTY FIREMEN'S ASSOCIATION. Quarterly Meeting, Fire Headquarters, Woodmere, L. I., N. Y. Secretary, James McInnes, Jr., P. O. Box 465, Syosset, L. I.

Oct. 21—FIRE CHIEFS' EMERGENCY PLAN. First Meeting of Season, Barry Avenue Fire House, Mamaroneck, N. Y. Secretary, Capt. Walter M. Dawkins, P. O. Box 341, Port Chester, N. Y.

Oct. 24-26—INTERNATIONAL ASSOCIATION OF POLICE AND FIRE SURGEONS. Annual Convention, New Haven, Conn.

Oct. 28—FIRE CHIEFS EMERGENCY PLAN OF FAIRFIELD COUNTY. Next Meeting, Nichols, Conn. Secretary, Lieut. John Moehring, Toms Road, Stamford, Conn..

## Prosecution of Arson Cases

L. A. Hince, Administrative Assistant, Federal Bureau of Investigation, told students at the fourth Virginia Fire Instructors' Training School at Richmond, that the Department of Justice is anxious to cooperate with Fire Departments throughout the country, in prosecuting arson cases. He said that it would perform various functions, including that of providing expert testimony without charge.

## Memphis Enjoys Low Loss

Memphis, Tenn., by consistent effort, has reduced its fire losses to the lowest in twenty years. Losses have decreased to $217,786 in 1935, and the per capita loss has dropped from $5.54 in 1930 to $1.00 in 1935.

The department is under the supervision of the Commissioner of Fire and Police. The personnel consists of 352 men, including a Chief, four Assistant Chiefs, 53 Captains, fifty Lieutenants, 52 drivers and 150 privates.

The men are required to do work at the drill school. Weekly classes are held for Captains and Lieutenants, and for drivers and assistant drivers. Firemen, through blackboard sketches, are made familiar with all large buildings in the city.

The cars of the Chief and his assistants have radio receiving sets, so that they can be reached through the police broadcasting station.

## Indiana Chiefs and Firemen Meet

The tenth annual convention of the Indiana Fire Chiefs' Association was held at Anderson, September 16 and 17. Attendance was larger than at any previous meeting.

A resolution was passed advocating a state law to place departments in the state on the merit system. It would give Chiefs the power to advance men in rank for merits or service rendered and take appointments out of politics.

Another resolution favored the appointment of men in the Fire Marshal's office, who had at least ten years' service in Fire Departments.

Carter Bowser, Fort Wayne, advocated a change in the pension law. This question will be taken up at the next convention which will be held at Michigan City.

The new officers are Irvin Bauman, Michigan City, President; Frank Clem, Anderson, First Vice-President; Albert Rowe, Terre Haute, Second Vice-President; Archie McCabe, Muncie, reelected Secretary; John Sthalhut, Fort Wayne, reelected Treasurer.

**Water Tower Delivered to Newark, N. J.**

An American-LaFrance water tower was recently delivered to Newark, N. J. The unit embodies some of the latest improvements in the design of this type apparatus.

# M·S·A FIREMAN'S HELMET

## ...Compare it with any other!

By the verdict of departments from coast to coast, the M.S.A. Fireman's Helmet has *everything!* It makes a trim, smart appearance on parade, and in actual service it has *extra* strength for protection against tremendous blows; plus unusual lightness and comfort, insulation against electric shock, and immunity to the softening effect of water or chemicals. ● We invite you *to test for yourself* the all-around superiority of the M.S.A. Fireman's Helmet. At your request, we'll gladly arrange an actual demonstration for you.

*Distinctive Features: Molded in one piece from durable micarta of great fracture-resistance. Strong reinforcing on crown and around brim. Rubber-cushioned, genuine leather sweatband. Self-ventilation. Adjustable web hammock in crown to absorb shock. Leather chin-strap with separate adjusting and fastening devices. Detachable, zipper-operated ear lugs. Available in standard black, or white for chief and officers. Shield insignia on any color background.*

**MINE SAFETY APPLIANCES COMPANY**

Braddock, Thomas and Meade Streets . . . Pittsburgh, Pa.

District Representatives in the Principal Cities

M. S. A. Products include Breathing Apparatus . . . Inhalators . . . Comfo Respirators . . . Masks of all types . . . Gas Indicators . . . Gas Detectors . . . Safety Goggles . . . Protective Hats and Caps . . . Edison Electric Cap Lamps . . . Safety Clothing . . . First Aid Equipment . . . Bulletins sent on request.

---

AFTER all, a good badge is a sensible investment. Not everyone can wear a fireman's emblem of service. You men who have devoted your lives to saving life and property should be proud of your badge.

You will be if you wear a BRAXMAR BADGE. Over fifty-five years of experience goes into every badge you buy.

*Catalog on request.*

C. G. BRAXMAR CO., 242 West 55th Street, New York

# BRAXMAR BADGES

*Standard for Over Fifty Years*

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Reduce WATER DAMAGE & INSURANCE RATES

With Shuredry SALVAGE COVERS

BETTER YOUR RECORD

In every city where Shuredry Salvage Covers are a part of regular equipment taxpayers have benefited.

Three-fourths of all fire losses are directly chargeable to water damage. Reduce this hazard and better your record. Specify Shuredry Salvage Covers. Drill your men in their use.

*Write to our nearest plant for full information and prices.*

**Fulton Bag & Cotton Mills**

*Manufacturers Since 1870*

ATLANTA ST. LOUIS DALLAS

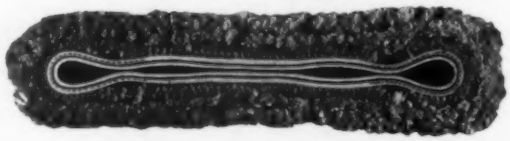
MINNEAPOLIS BROOKLYN NEW ORLEANS KANSAS CITY, KAN.

## HEWITT-GUTTA PERCHA
# FIRE HOSE

A complete line, including
Wax Treated - Solid Multiple Woven
AND
Single and Double Jacket Hose

Manufactured by
**HEWITT RUBBER CORPORATION**
BUFFALO, N. Y.
*"Territories Available"*

## Bi-Lateral Fire Hose



The one hose that does not require frequent replacements. Always reliable for fire service no matter how old, if the jackets are intact.
Lined with three rubber tubes.

**BI-LATERAL FIRE HOSE CO.**
15 Park Row, New York, N. Y.
20 N. Wacker Drive, Chicago, Ill.

## CRACKER JACK FIRE HOSE

**The hose with an unsurpassed reputation for QUALITY and SERVICE that has made it the STANDARD OF THE WEST for over 25 years.**

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COMPLETE INFORMATION UPON REQUEST

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THE AMERICAN RUBBER MANUFACTURING CO.
OAKLAND, CALIFORNIA
*Dealers in All Parts of the Country*

*THE SELLING PLAN OF*
## GOODALL FIRE HOSE
*INVOLVES NO INVESTMENT ON THE PART OF OUR AGENTS*
***Write for details.***

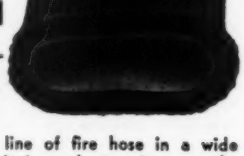
**GOODALL RUBBER CO.**
PHILADELPHIA
NEW YORK - PITTSBURGH - CHICAGO
HOUSTON - CLEVELAND
Mills at TRENTON, N. J.

## ATLAS
*The World's Newest and Safest*
## LIFE SAVING NET
ALSO TRAINING NETS AND LIFE BELTS
***Valued for its safety devices***

Specify ATLAS NETS when you buy new truck equipment.

ATLAS FIRE EQUIPMENT CO.
22 WARREN STREET NEW YORK

## FLAT CURED— WAX and GUM TREATED—
***Any type you want!***



Quaker City makes a complete line of fire hose in a wide price range—but every foot of it is made to give you the best service you can get in its price class. For a complete list of brands and prices write us anytime—

**QUAKER CITY RUBBER CO.**
PHILADELPHIA, PA.

## Sensational NEW Midship Champion
**Only $535**

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Meets all requirements of the Underwriters and all State Actuarial Bureaus for 500 GPM Fire Pumps. But actually delivers 600 GPM at suction and 800 GPM from fair hydrants. Automatic Vacuum Primer.
Easily installed without mutilating chassis. Pump fits into the space now occupied by short shaft which connects propeller shaft with transmission. Installation completed in an hour's time.
You can mount the new Champion Midship Fire Pump temporarily on a chassis and make your own tests. If the Champion does not perform fully to your expectations it can easily be removed from chassis and we want you to return it and we will send your money back.
Complete, ready to mount, with Gauges, Booster Valves, etc.

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# CORRESPONDENCE

## Advocates Increased Benefits to Connecticut Firemen

*To the Editor*:

At the State Convention of the Connecticut Firemen's Association the convention voted down 88-33 an amendment sponsored by the Fairfield County Fire Chiefs' Emergency Plan, which would have increased the benefits to volunteer and paid firemen from $2 a day for 6 days a week to $3 a day for seven. In this letter, as Secretary of the Fairfield County Plan, I have endeavored to explain to the volunteer and paid firemen throughout the state why we advocated this amendment.

Our Plan has been investigating the plans now in operation in our two neighboring states, New York and New Jersey, for the past two years. This resolution to change the State Association Constitution was no hasty action. We have learned that a two per cent tax is levied on all fire insurance policies written by "foreign" (out of state or foreign countries) fire insurance companies. This is done in a number of New England states, as well as New York and New Jersey.

In New York State $600,000 was collected in one year, *and due to the firemen's legislation passed by wide-awake New York State firemen not a penny of this goes into the state general funds.* This amount of money collected from insurance companies for the Fire Departments *goes to the Fire Departments.*

In Connecticut, a smaller state, over $159,000 was collected in a depression year, 1933. Certainly we can believe that this amount has increased since that time. However, no legislation has been enacted in this state for the distribution of this vast fund. Each year the legislature passes $24,000 over to the State Firemen's Association and makes them believe that it is throwing the state budget out of balance by so doing.

At the State Convention in Greenwich, the minority delegates who supported the measure, were made to believe that we were taking money from the orphans of our dead comrades by voting for the amendment, but this was not the case. This amendment would not take effect, naturally, until an increased appropriation had been received to take care of the increased benefits. We had no desire to disrupt in any way the benefits now being disbursed.

The fact is that the State has $159,000 which our group considers should not belong to them, although, until the paid and volunteer firemen of the State get together, it is legally theirs.

We believe this amount of money should be given back to the firemen in a way which can be decided upon by the majority of the firemen of the state and which will benefit the most. We believe the State Association should receive enough additional funds to pay benefits fairer to the firemen who may be incapacitated by injuries. We believe that a certain portion of the fund should be set aside, as in New York and New Jersey, for a State Home for the aged paid and volunteer firemen; we believe the remainder should go directly back to the Fire Departments for benevolent purposes.

In New York State a beautiful firemen's home in Hudson, has been built and is financed from 10 per cent of the two per cent collected by the fire companies and from the usual bequests and endowments. At present there are 170 retired members at the home from 60 to 90 years of age. It takes $108,000 annually to support the home, which covers 183 acres.

Besides this legislation, other laws have been passed which give the volunteer firemen benefits five times larger than in our state. Here is the way the benefits compare between New York and Connecticut:

| | Connecticut | New York |
|---|---|---|
| **Temporarily Disabled** | | |
| | Benefit per day (not to exceed $364 unless by Executive Committee action) $2 a day or $12 a week. | $25 a week (not to exceed $700). Also medical expenses up to $200. |
| **Permanently Disabled** | | |
| | No provision except regular $2 per day. | $1,500 or half of death benefit, besides regular $25 a week and medical expenses. |
| **Killed** | | |
| | $400 death benefit and $150 for funeral expenses. | $3,000 death benefit. |
| **Orphans** | | |
| | $4 per week until child is 16 years of age. | $25 per month until child is 18 years of age. |

There is a mistaken belief that paid firemen oppose these amendments. Our amendment made no distinction between the two classes of firemen. In regards to the two per cent insurance tax, the more insurance sold the more taxes for the town or city Fire Department, as the Fire Department Treasurer personally collects this 2 per cent tax in New York State in his own city or town.

With the number of firemen in the state, the firemen, if organized properly, can become an important voting factor. The war veterans are receiving the benefits they are today, because of their organization and the pressure they have brought upon the state and town officials. Certainly the general public will back us in receiving the money we rightfully deserve.

Further information on this matter in Connecticut can be secured from myself or Chief George Brencher, Chairman of the County Legislative Committee; from Seth Cole, Albany, N. Y., Attorney for the New York State Firemen's Association or from Judge Hoop, of Bronxville, N. Y. All the information in this article is from excerpts of speeches given by these two men to our organization.

Meanwhile, any Connecticut fireman visiting New York State at any time, should stop in at Hudson, N. Y., and be shown through the remarkable home built by the same funds that the State of Connecticut now uses for other purposes.

Our County Chiefs' Plan has published a 70-page book, containing all the laws relating to "fires, fire companies and fire protection" now on the state statute books and enough copies are available for firemen throughout the State. They may be obtained from Chief George Brencher, of Darien.

JOHN MOEHRING,
Secretary of the Fairfield County Fire Chiefs' Emergency Plan,
Toms Road, Stamford, Conn.

## An Oil Well That Went Dry

*To the Editor*:

I have been a steady cover-to-cover reader of FIRE ENGINEERING since I first heard of it, and I have received unmeasured benefit from the articles and items every month.

I always read the editorials first because of the sensible presentation of reasonable subjects and the fine judgment and forethought displayed. I received the September issue and almost habitually, read the editorials.

An account in the *Nassau Daily Review* almost stood me up in the middle of the floor. I guess lightning sometimes hits near home after all. What happens in the West can happen in the East and here's proof. As a fireman, I hope that this isn't the start of a new hazard. The newspaper account states:

"A well that spouts pure gasoline has been discovered in Rockville Centre.

"Investigating reports from residents of the Banks avenue section of the village that pure gasoline was running out of the cellar at 54 Banks Avenue, police and health officials today made an investigation of this phenomenon and found it true.

"However, Fred Marz, health inspector, and Police Chief Thomas A. Eibler discovered the cause of the freak well. The house is adjacent to the Bee Line Bus company garage and it was discovered that gasoline was escaping from the tanks and seeping through the soil until it came out in the well at 54 Banks Avenue.

"It was reported that automobile owners of the district have been using this gasoline for their cars but after the investigation today steps were taken to dry up the well, which was declared a fire hazard, as well as an extravagance."

Yours truly,
WILLIAM H. WALLACE,
Rockville Centre, N. Y.

## Taxicabs May Park at Hydrants

An order was issued by Mayor LaGuardia, New York City, granting permission for "live" taxicabs to park in front of fire hydrants. It was felt that if a cab with a driver at the wheel was permitted to park in front of the hydrant, locked cars would be prevented near the hydrant, and in case of a fire, the water supply would be more accessible to the firemen. This action was taken following a conference with Commissioner John J. McElligott.

The order is only for "live" cabs, or cabs with the driver seated at the wheel. Upon the approach of fire apparatus, the cabs are to vacate and permit the department access to the hydrants.

Architect's Sketch of How Station Will Appear When Completed

## Orange, Mass., to Open New Station

Within a short time, Orange, Mass., will open its new fire station to the public. Work was started on January 7, 1936, as a PWA project.

The estimated cost of the building is $23,300, and the present fire alarm system is utilized.

The building, when finished, will be completely colonial in design. The exterior is of Gonic water struck, self-washing brick, with sandlime brick used for back up. The interior is white sandlime brick. The hose tower is laid out with the thought of a drill tower in mind.

The air whistle, installed by Thomas H. Reynolds, occupies the top of the cupola which is fashioned after the tower designed by George Washington for his Mt. Vernon home. The roof is slate.

Entrance is through a large Colonial style door to the right of the apparatus room. From a small vestibule one may enter the apparatus room, which has a soda acid room, watchroom, or toilet and shower. Adjoining are the boiler room, and fire alarm signal room, which are below grade. The whistle tanks are outside of the building.

On the second floor is a large bedroom, a modern kitchen, with an electric range and refrigerator, a common room with two brass sliding poles to the apparatus floor below. At the other end are two bedrooms with connecting toilet.

Chief C. E. Lane is proud of the station that he will have. The building rests on fifteen caissons, and was designed by George Ernest Robinson, Boston, Mass.

## Visitors Inspect "Talkalarm"

Mayor William York, Chief Patrick J. Hurley and other officials of Holyoke, Mass., were guests of George Wellington, President of the Fire Board; Chief Thomas F. Burns and Assistant Chief A. S. Mellor, of the Bridgeport, Conn., Fire Department, recently. After luncheon at the Stratfield Hotel, the party was taken to the alarm room at Headquarters on Middle Street and witnessed a thorough test of the new "Talkalarm" system in that city.

Holyoke, along with a number of places in Connecticut, are interested in installing the "Talkalarm" in the Fire Department.

"The 'Talkalarm' is going to revolutionize the fire service and get the men on the street in answer to an alarm fifty per cent faster," said Chief Hurley, after witnessing the speed in which calls were transmitted over the system. "I would suggest that every Fire Chief within reach of Bridgeport visit that city and hear the 'Talkalarm' in operation."

In the party with Mayor York and Chief Hurley were Otto Driekorn, Chairman of the Fire Board; Commissioners George Stalker and Hugh McLean; Hermos Fluery, Chairman of the Board of Public Works; Richard Murphy, Secretary to Mayor York; Herbert Fuller, of the Springfield *Republican*; Chief and Mrs. J. S. Pachl, of East Haven, Conn., and Mr. and Mrs. Harry Belknap, of Boston, Mass.

THOMAS F. MAGNER.

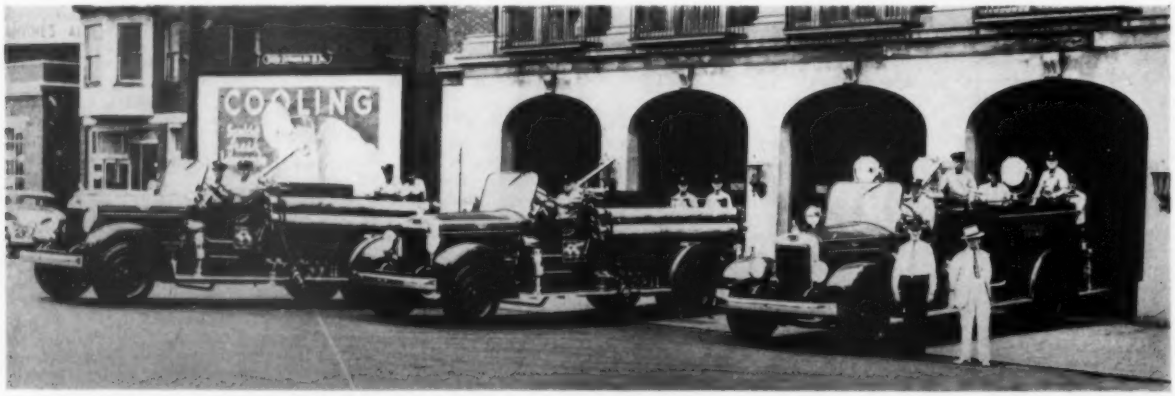
## Life Lost Through Disregard of Rules

For eighteen years an employee of the Signal Division of the Columbus, Ohio, Fire Department had been employed as a lineman. During that time he was impressed with the danger of high-tension lines, and the rules and practices to be followed when working with such high voltages. However, disregard of all he had learned cost him his life.

According to information supplied by E. Donaldson, Superintendent, Fire & Police Telegraph, a 2,300-volt line was down on the street, burning and sputtering. That should have indicated to the lineman that it was a high-tension line. There are two pairs of rubber gloves, that are tested after they are used once, and a pair of wooden handle cutters carried on the line truck at all times for such work.

In this case, the lineman attempted to cut the wire while standing on the ground with a pair of bolt cutters that had rubber covered handles, not insulated for high voltage. The division had instructed its men to use rubber gloves at all times and to do the cutting on poles and not on the ground as the lineman attempted to do.

Disregard of the safety devices provided cost the lineman his life.




**New Apparatus Delivered to the Schenectady, N. Y., Fire Department**

Two new pumpers and a squad car were delivered by the Mack Trucks, Inc., to the Fire Department of Schenectady, N. Y. Tests of the Mack pumpers were conducted by an engineer of the National Board of Fire Underwriters. The pumpers are rated at 1,000 g.p.m. The squad car is provided with floodlights and all the latest equipment.

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**BEWARE OF CHEAP IMITATIONS**

Look for the double eagle label on the coat you buy.

*Write for our Free Illustrated Catalog showing complete line of our rubber and canvas garments. Satisfaction Guaranteed.*

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*The World's Finest!*

**FIREMEN'S COAT**

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**FIREMEN'S UNIFORM SHIRTS**

**Styled Right Priced Right**

Cut full and roomy. Guaranteed not to shrink. Choice of medium blue, heavy fine yarn, fast-color sanforized chambray or navy blue tub-test percale. Two popular styles, Soft Collar Attached or Neckband with two Detachable Collars.

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If you are interested in a standardized uniform shirt for your department and your dealer cannot supply Signals, write us. Give us size and style preferred and we will submit a sample shirt prepaid for your inspection and quote prices.

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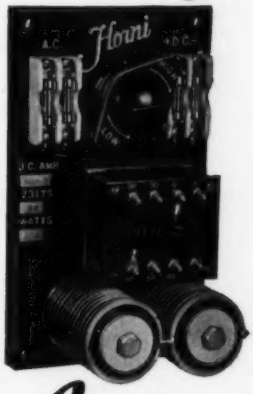


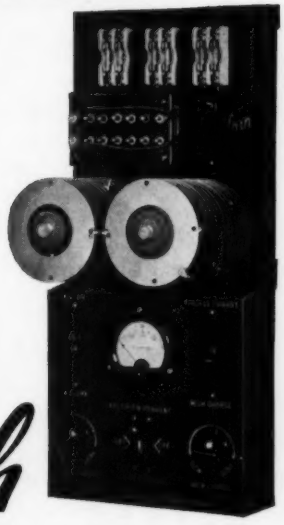

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HIGHEST QUALITY

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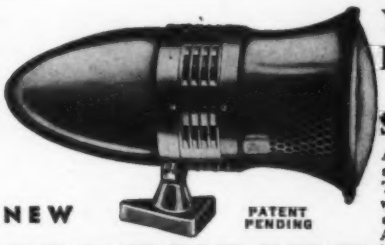

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**SIRENLITE**

Combination No. 20 Siren and Powerful Red Flashing Light. Price—$49.50.

*You can* **HEAR** *and* **SEE IT!**

A powerful siren and light combined. The most practical warning device for all apparatus. A precision built instrument, same sturdy construction as all Sterling Sirens. Write for bulletin.

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You'll Feel
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$24 Dozen
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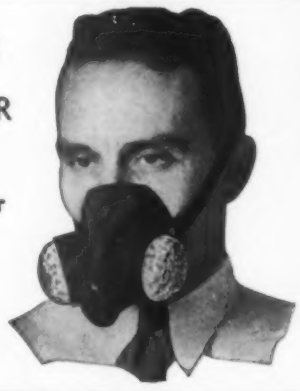
Station A
South Bend, Indiana



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*Puts out chimney fires*

*Repeat orders prove its value!*

**5** minutes and a package of SOOT-BLAST, sprinkled over flames at base of chimney, will put out any chimney fire.

*Try a case and see!*

**$4.50**
per case
12-26 oz. packages
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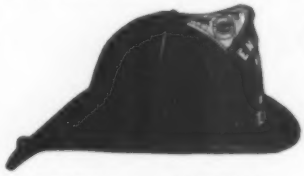
**THE STEBIS CO., Inc., Minneapolis, Minn.**

**CAIRNS** LOW HEAD—CUSHION LINED **HELMET**



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Never go to a fire without the protection of a good helmet. It may save your life.

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# FALSE ALARMS

### SAFETY FIRST

Grand stands, judges' stands, and other temporary work were being erected as part of the state tournament. Lumber was moved about, and workmen were busy in completing their work on scheduled time.

A small boy was seen leading a donkey by the lot. A few firemen in uniform thought that they would have some fun with the youngster.

One asked, "Why are you holding on to your brother so tightly, sonny?"

Without even blinking an eye he replied, "So he won't join the Fire Department."

---

Sign at library: "Only low talk permitted here."

---

### ANYWAY, INDISCREET

The matron of the fire house who came to do the general tidying-up, failed to come one day.

When she came the next day, she explained to the Captain:

"I couldn't come yesterday, I had such a pain."

"Nothing serious, I hope. Was it dyspepsia?"

Very thoughtfully, she explained, "No, Captain, it was something I ate. The doctor said it was acute indiscretion."

---

When a boy kisses a girl and she returns the kiss, that's even. When she don't return the kiss, that's odd.

---

### MANDATORY

The boys had been trying to get him over to the station for a game of cards some evening. Each time he had the same excuse, "He couldn't get away."

Finally one of the men could stand this line of excuse no longer.

He made the caustic remark, "If I had a wife like yours, I'd stay home every night in the week."

The one at whom the jibe was directed, replied:

"I'll say you would or get your neck broken."

---

A waffle is a pancake with a non-skid tread.

---

### HOT TIME

"What kind of party was it?"

"Well, at about one-thirty, the automatic fire sprinkler started to work."

---

A bird in the hand is bad table manners.

---

### ACCOMPLISHED

The company put on a little show of its own, and to this a number of the city officials were invited. To keep within the good favor of the men, they came.

The Mayor and the Commissioner were discussing the show afterwards.

Said the Mayor, "That tenor is a fireman, isn't he?"

"Yes."

"Well, I envy that man."

The Commissioner seemed surprised, and remarked:

"Why I thought he had a very poor voice."

"So did I," said the Mayor, "but think of his nerve."

---

Said the cannibal's daughter as dinner was being served, "Give this girl a great big hand."

---

### PERSONAL AFFILIATION

Here is a story that was contributed by a fireman in whose station the Board of Registry met.

A colored lady appeared before the Board, gave her name, her address, and her age. She was then asked by the clerk:

"What party are you affiliated with?"

"Does I have to answer that?" she asked, considerably worried.

"That is the law," she was advised.

"Den you just scratch my name offen de books. Ef I got to tell dat party's name, Ah don't vote, dat's all. Why he ain't got his divorce yet."

---

### PERSONAL SERVICE

A number of the Chiefs who met at the meeting of the Chiefs' Club started to discuss how to manage the under-officers. There was quite a heated pow wow, and one fellow seemed to forget himself in his anxiety to advance his ideas.

He said, "I never send a subordinate off on a fool's errand. No sir, I believe in going myself."

Drawing by "Art" Espey

**A Higher Objective for the Canine Kingdom**

In a recent order by the Chief of a large Fire Department, firemen were instructed to paint the size of the main to which it was connected, on the hydrant barrel. After a weary day of painting numbers all over the company district, a fireman was working on his last hydrant. The size of the main was 20 inches. He painted the zero first. While he was completing the naught, an inquisitive resident who had been watching with much interest, asked, "What have they got you firemen doing now?" The fireman answered, "Oh, I am just putting targets on hydrants for dogs to shoot at."

## CLASSIFIED ADVERTISING

*Bids Wanted, For Sale and Help Wanted $5 per inch. Position Wanted, $2.50 per inch*

### Salesmen Wanted

To sell FIREALLS, a Streamlined, Waterproof, Air-Conditioned, Day or Night, Fireman Safety turn out coveralls. Has no equal in Safety, Speed, Economy, Comfort and Durability. Now used in 37 States. Write now. MORNING PRIDE MFG. CO., Dayton, Ohio.

### For Sale

Gamewell whistle blowing machine and steam whistle in perfect condition, sacrifice price. Write Borough Manager, Phoenixville, Penna.


## Chief Herring Re-Elected

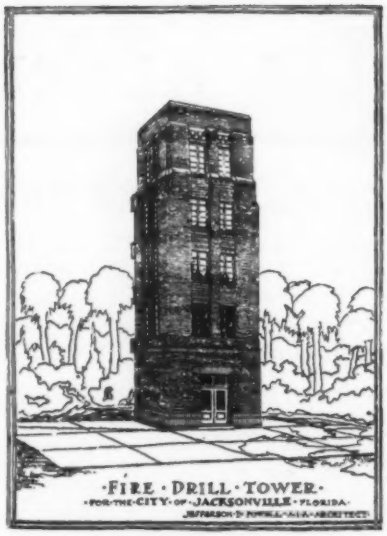
Chief Al Herring, Murphysboro, Ill., was re-elected President of the Egyptian Fire Fighters Association for the eleventh term, at a meeting of the organization held at Murphysboro, September 16.

Each member was pledged to arrange a Fire Prevention Week program. Chief Herring said that through the work of the association, the number of fires in the southern section of the state has been greatly reduced and also the fire loss.

## Topeka Has 1-Man Fire House

There is one man keeping vigil in the new fire house completed in the fashionable Westboro section of Topeka, Kan. The building was erected as a WPA project, but after it was completed, the city found that it did not have any money to man and equip it. The city plans to provide funds in the new budget for the men to be stationed there.

At present Chief William J. Cawker has placed his driver in the new house, so that he would be convenient to the Chief who lives nearby.




**Proposed Drill Tower**

Jacksonville, Fla., expects to erect a drill tower to cost $7,000. Above is the architect's drawing of the appearance of the tower when completed.

## McEachern Heads Louisiana Firemen

At a convention of the Louisiana State Firemen's Association held at Houma on September 24-26, the following officers were elected:

J. C. McEachern, Haynesville, President; Rene Benard, Thibodaux, First Vice-President; Leo L. Ditch, Lafayette, Second Vice-President; T. E. Wright, Houma, Secretary; A. A. Hanson, Westwego, Treasurer.

## Work of West Virginia Firemen

In a report to the West Virginia Firemen's Association by C. F. Reininger, President, the work of the association for the past year was outlined.

A bill for a two per cent tax is to be presented to the legislature. For the past six years, a firemen's school has been held at Morgantown. At the past school, 140 firemen attended. In addition regional schools were held at Charleston, Bluefield, Parson, Weston and Wheeling, and there were also winter classes.

The officers of the association are C. F. Reininger, Charlestown, President; W. D. McCauley, Moorefield, First Vice-President; L. P. Weltley, Martinsburg, Second Vice-President; F. N. Clark, Clareston, Third Vice-President; H. G. Fridinger, Martinsburg, Secretary; W. W. Long, Keyser, Treasurer.

## Chief Harrison, Onset, Dead

Chief Frank R. F. Harrison, of Onset, Mass., after a long illness, died on August 4. He took part in the battle with the Great Boston Fire of 1872 as a member of a New Bedford engine company which answered the call for outside aid.

He was 82 years of age and had made many improvements in the Onset Fire Department during the long period that he served as Chief. He was a member of the New England Association of Fire Chiefs and of the International Association of Fire Chiefs.

HARRY BELKNAP.

## Five Died in Rural Fire

The parents and three children, all of one family in Wayne County, Pa., were buried in one casket, the aftermath of a fire which broke out at night. The house was without telephone service, and about one-fourth mile away from the nearest residence.

The father awoke at night to find his house afire. He succeeded in carrying his two youngest children to safety on two different trips. He cut himself badly, going through a window and later collapsed from loss of blood while trying to guide the other members of the family. Rescuers who were attracted by the red glow in the sky, found the three charred bodies.

Three of the older children were not at home the night of the fire.

**Floodlighting Apparatus of Lewiston, Me., Fire Department**

Lewiston, Me., has a floodlighting unit provided with a Homelight generating plant, which supplies five floodlights. The apparatus also carries shovels, axes, jacks and other tools, besides bags of sawdust.

## Early Apparatus Found

One of the first fire pumpers that ever saw service in this country, was found hidden away in a dusky cellar during an inspection tour made by Captain John H. Tague, head of the Fire Prevention Bureau, Bridgeport, Conn.

The antique piece of apparatus is only about as large as a baby carriage. It has pump handles on one side which were worked by man power. It also has a length of leather hose about 1½ inches in diameter.

The relic is said to have served in the battle against the flames that destroyed the old Barnum Museum on Ann Street, New York City, in 1876. Data secured by Bridgeport firemen show that a man named James Quigley, who was a member of the New York Volunteer Fire Department, secured possession of the old apparatus and later moved to Bridgeport, bringing it with him.

The apparatus was presented to Captain Tague and exhibited by the Bridgeport Fire Department during the 100th anniversary Centennial which was held in Bridgeport last June.

THOMAS F. MAGNER.

# *Ask for it... It's FREE*

**As a reader of FIRE ENGINEERING you are entitled to our buyers' information service free of cost. Here is how it works.**

**Whenever you are seeking information about any piece of equipment or material that you are planning to buy, first look through the advertisements in this issue. They are your best guide.**

**Then, if you do not find what you want, just use the blank below to tell us what you need and we will see that you get the information you want.**

**That's all there is to it. Easy, simple, and it costs absolutely nothing.**

*Use the coupon—*

FIRE ENGINEERING
Readers' Service Dept.,
24 W. 40th St., New York.

Gentlemen:

Please have sent to me, without obligation, information about the following items:

_____

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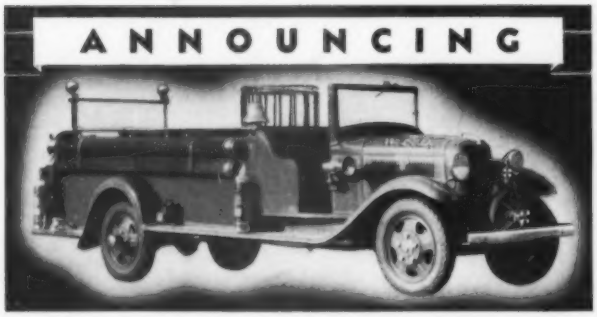
NAME .....

POSITION .....

ADDRESS .....

NOTE: The more specific you can be in detailing the items you are interested in, the more specific we can be in having the correct information sent you.

10-36




## Two New BARTON Fire Pumps
## in Our F-Type, Direct-Drive Economy Line

### Both Pumps Underwriters' Tested

Pumping from suction at 120 pounds pressure, 500 gallons per minute with the new F-500, and 600 gallons with the new F-600 . . . one-half these rated capacities at 200 pounds . . . one-third capacities at 250 pounds! Here indeed are fire pumps you can be proud to own and use—**large enough to meet any emergency. And they are absolutely complete,** even equipped with Siamese discharge valves as shown at right.

F-500, 500 GALLONS
F-600, 600 GALLONS

All Barton F-Type Direct-Drive Fire Pumps, including these two new ones, are priced SO LOW that practically every community can afford this dependable protection. Then, too, Barton Front-Mounting is a big economy feature. **You can install any Barton Fire Pump without making a single chassis alteration—total mounting cost but a few dollars.**

Read our Bulletin 95, Edition 2. **It also describes the F-4 and F-5 Pumps which are still lower priced.** Note how all of these Barton F-Type Direct Drive Pumps include every feature found on our Famous U-Type Pumps, except Gear-Drive. They are centrifugal type, pumping dirtiest water without damage—automatically primed. Use Coupon below.

## BARTON U-Type Fire Pumps With Our Famous Built-in Gear Drive

The very finest Front-Mounted Centrifugal Fire Pumps—350, 400, 500 and 600-gallon sizes—ALL UNDERWRITERS' TESTED—automatically primed!

Every U-Type Barton is designed with our built-in Gear-Drive, permitting the truck motor to operate at about ONE-HALF pump speed. The advantage is obvious. **You can turn a U-Type Pump wide open—get 250 pounds pressure—AND THE MOTOR LOAFS ALONG!** You protect your motor completely when you select a Barton U-Type Pump with this motor-speed-reducing feature.

There are thousands of these Barton Pumps now on active duty—and to our knowledge NOT ONE has ever failed. Check Coupon for Bulletin 75, Edition 4.

MAIL COUPON

American Steam Pump Company
Battle Creek, Michigan

Please send me your Barton Fire Pump Bulletins as checked below:
☐ Bulletin 95 (F-Type Pumps) ☐ Bulletin 75 (U-Type Pumps)

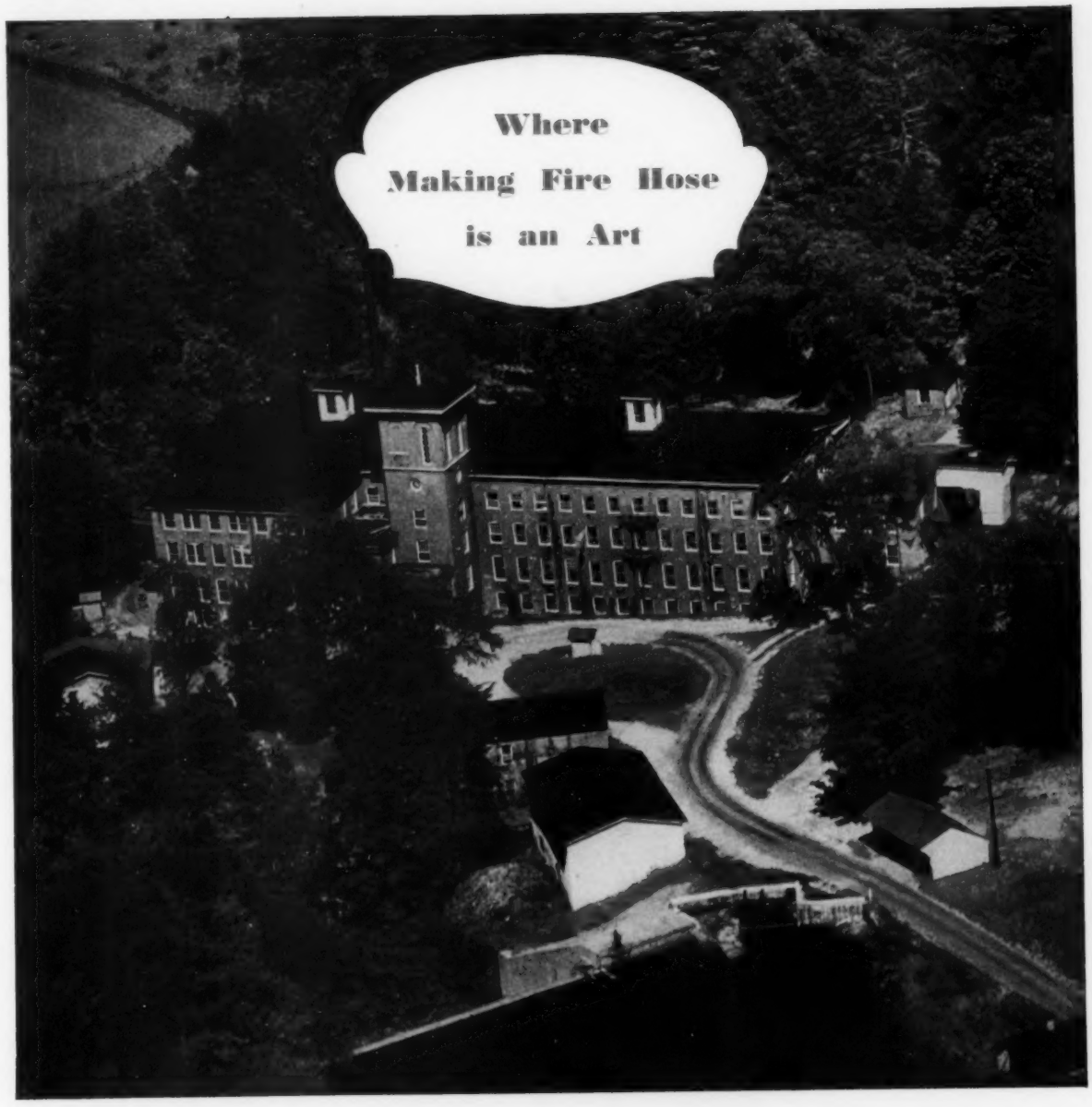
NAME .....

ADDRESS .....


# ADVERTISING INDEX

ADVERTISING PAYS IN FIRE ENGINEERING


| | Page |
|---|---|
| American District Telegraph Co. | 454 |
| American Fire Hose Co. | 477 |
| American Rubber Mfg. Co. | 490 |
| American Steam Pump Co. | 498 |
| Atlas Fire Equipment Co. | 490 |
| Bi-Lateral Fire Hose Co. | 490 |
| Body Guard Mfg. Co. | 481 |
| Braxmar Co., C. G. | 489 |
| Bryan Steam Corp. | 485 |
| Buckeye Iron & Brass Works | 481 |
| Cairns & Brothers | 494 |
| Cory-Patterson Mfg. Co. | 486 |
| Cover, H. S. | 494 |
| Darley & Co., W. S. | 490 |
| Eddy Valve Co. | 486 |
| Elkhart Brass Mfg. Co. | 486 |
| Eureka Fire Hose Division of United States Rubber Products, Inc. | Back Cover |
| Fabric Fire Hose Co. | Inside Back Cover |
| Federal Electric Co. | 486 |
| Fulton Bag & Cotton Mills | 489 |
| Gamewell Company | 456 |
| General Fire Truck Corp. | 451 |
| Globe Mfg. Co. | 478 |
| Goodall Rubber Co. | 490 |
| Goodyear Tire & Rubber Co., Inc. | 453 |
| Graybar Electric Co. | 493 |
| Hale Fire Pump Co. | 486 |
| Hewitt Rubber Corp. | 490 |
| Homelite Corp. | 485 |
| INFORMATION FOR BUYERS | 497 |
| Kidde & Co., Walter | 477 |
| Manhattan Rubber Mfg. Div. of Raybestos-Manhattan, Inc. | 455 |
| Midwestern Mfg. Co. | 493 |
| Mine Safety Appliances Co. | 489 |
| National Foam System, Inc. | Inside Front Cover |
| Northern Pump Co. | 486 |
| Quaker City Rubber Co. | 490 |
| Republic Rubber Co. | 478 |
| Rissman & Son, John | 493 |
| Smith Mfg. Co., D. B. | 485 |
| Stebis Co., The | 494 |
| Sterling Siren Fire Alarm Co. | 494 |
| United Pyro-Chemical Corp. | 486 |
| U. S. Fire Equipment Co. | 482 |
| Ward LaFrance Truck Corp. | 494 |
| Waterous Co. | 494 |




Aerial photograph of our factory at Sandy Hook, Connecticut, the only plant in the United States making municipal fire hose exclusively. Genuine Wax and Gum Treated Cotton Rubber Lined Fire Hose has been our specialty for fifty-five years.

**FABRIC FIRE HOSE COMPANY**

SANDY HOOK, CONN.

# FABRIC FIRE HOSE

# THE HOSE YOU CAN BE SURE OF

**MILDEW PROOFING**—Antiseptically treating EUREKA Fire Hose Fabric with mildew repellant solution.

**WEAVING**—This illustrates the weaving of PARAGON "Multiple Woven" Fire Hose Fabric. No better fabric known.

BE SURE of your fire hose. Be sure that it will stand up under all kinds of conditions—that it will protect the lives of your firemen and the lives and homes of the people in your community—that it is made by a well-known manufacturer, of the best materials throughout, in a modern, fully equipped factory.

If you are sure that your hose meets these requirements, you must be using a Eureka brand of hose.

Eureka, with the most complete line of quality fire hose ever made and over 60 years of manufacturing experience, is the largest manufacturer of fire hose in the country. Be sure to call in a Eureka representative and let *him* know your hose needs.

**ATTACHING COUPLINGS**—Quality Couplings are an important feature of quality Fire Hose.

**VULCANIZING TUBES IN JACKETS**—Each length of hose is cured on individual Steaming Head to eliminate subsequent distortion when under hydrostatic pressure.

**TESTING FIRE HOSE**—All Brands of EUREKA Fire Hose are tested under hydrostatic pressure before shipment.

**EUREKA FIRE HOSE FROM RAW MATERIALS TO FINISHED PRODUCT**

**EUREKA FIRE HOSE DIVISION**
of
United States Rubber Products, Inc.
1790 BROADWAY NEW YORK, N. Y.

# EUREKA—FIRE HOSE

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